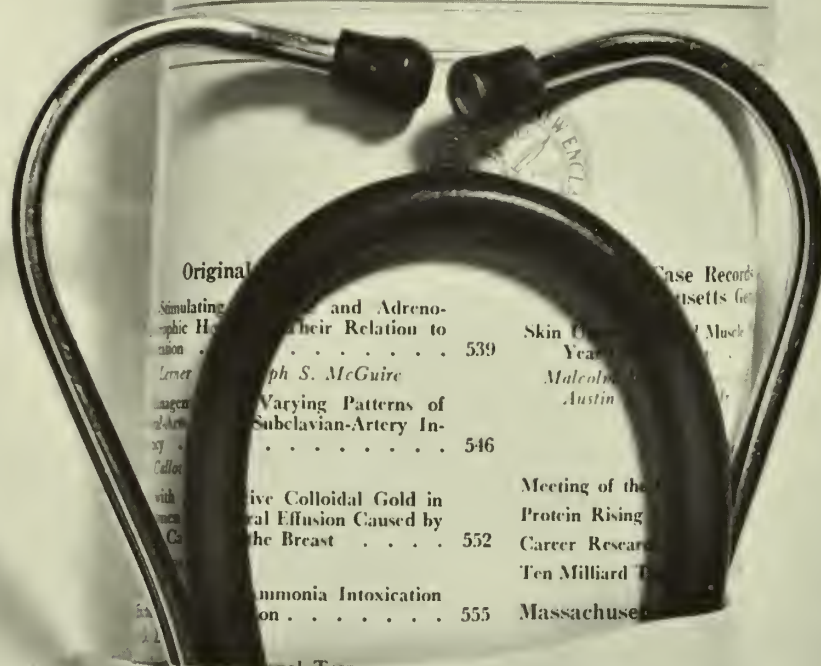


in a time of great social upheaval and rapid developments in science no profession with its roots in science and its goal to serve society can remain unaffected by the changes taking place about it

The New England Journal of Medicine

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The New England Journal of Medicine

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Harvard Medical School

1968 REUNIONS

WHAT'S HAPPENING, WHERE AND WHEN

Thursday, May 30th

1943A Dinner, Harvard Club, Harvard Hall
1943B

Friday, May 31st

ALUMNI DAY

1918 Dinner, Harvard Club, President's Room
1923 Dinner, The Country Club, 191 Clyde Street, Brookline
1928 Dinner, Holyoke Center, Penthouse, 75 Mt. Auburn St., Cambridge
1933 Dinner, Charter House Hotel, 5 Cambridge Parkway, Cambridge
1938 Dinner Dance, Somerset Hotel, Coronet Room
† **1943A** Dinner Dance, Somerset Hotel, Louis XIV Ballroom
1943B
1948 Dinner Dance, Sheraton-Boston Hotel, Commonwealth Room
1953 Dinner Dance, Pier 4, 140 Northern Avenue, Boston
1958 Cocktails, Countway Library, Minot Room
1963 Cocktails, Vanderbilt Hall

Saturday, June 1st

CLASS DAY

1918 Luncheon, The Country Club, 191 Clyde Street, Brookline
***1923** Clambake, The Edward Benedicts, Wing's Neck, Pocasset
† **1928** Red Sox Game, Fenway Park, and Supper, The Copes, Cambridge
1933 Outing and Clambake, The Howard Nichols, West Newbury
† **1938** Outing and Clambake, The Emerson Inn, Rockport
† **1943A** Outing and Clambake, Castle Hill Foundation, Ipswich
1943B Outing and Clambake, Castle Hill Foundation, Ipswich
1948 Outing and Clambake, The Edward Grays, Falmouth
1953 Red Sox Game, followed by Cocktails, Contway Library
1958 Outing and Dinner Dance, White Cliffs, Plymouth
1963 Dinner Dance, The Harvard Club

* By bus from Sheraton-Boston Hotel

† By bus from Somerset Hotel

and

ALUMNI PROGRAM

May 30-31, June 1, 1968

ALUMNI DAY- Friday, May 31, 1968

8:00 a.m.-2:00 p.m.

REGISTRATION

Building A

MORNING PROGRAM

9:45 a.m.

Welcome

Countway Plaza

Langdon Parsons '27

* * *

Sydney Saul Gellis '38, Moderator

"Change for Change's Sake?"

* * *

Dean Robert Higgins Ebert

"Philosophy of Curricular Change at Harvard Medical School"

* * *

Oliver Cope '28

"A View of the Place of Behavioral Science In the Curriculum"

* * *

John Englebert Dunphy '33

"The Effect of Curricular Change on the Teaching Hospital"

* * *

Leland Sterling McKittrick '18

"Curricular Change and Its Impact on the Problem of Delivering Patient Care"

* * *

11:30 a.m.

Presentation of the 25th Reunion Gifts

* * *

11:45 a.m.

Annual Business Meeting

Wesley William Spink '32, President

12:15 p.m.

LUNCHEON ON THE LONGWOOD QUADRANGLE

AFTERNOON PROGRAM

2:15

Robert Joy Glaser '43B, Moderator

Countway Plaza

"The Student Body Then and Now"

* * *

Ralph Marvin Steinman '68

"Basic Research in the Medical School Curriculum"

* * *

Henry Slater Kahn '68

"Community Health Activities in the Medical School Curriculum"

* * *

Edward Robert Shapiro '68

David Allan Rottenberg '69

"International Health Activities in the Medical School Curriculum"

* * *

Calvin Hastings Plimpton '43A

"Medical Education and Its Effect on Society"

* * *

4:30 p.m.

Adjourn

6:00 p.m.

CLASS REUNION DINNERS

1918, 1923, 1928, 1933, 1938, 1943A, 1943B, 1948, 1953, 1958, 1963

CONTENTS

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A NEW ORDER OF THINGS	4
by John R. Wesley	
HOW THE CURRICULUM HAS BEEN REVISED	11
by Alexander Leaf	
REVISION AT RESERVE	16
by Frederick C. Robbins	
A GENERAL PRACTITIONER I ONCE KNEW	19
by Wesley W. Spink	
THE MEDICAL PASSPORT FOUNDATION	22
by Claude E. Forkner	
LE BARON AND THE DOCTORS WARREN	24
by Robert M. Goldwyn	
EDITORIALS	28
ALONG THE PERIMETER	29
ALUMNI NOTES	32
LETTERS	38
BOOK REVIEWS	39
DEATH NOTICES	40
ALUMNI COUNCIL BALLOT	41

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LANGDON PARSONS '27
Director of Alumni Relations
DOROTHY A. MURPHY
Associate Director

A NEW ORDER OF THINGS

The Impetus for Change

in the Harvard Medical School Curriculum

by John R. Wesley '67

COMMENTING on the structure of power and politics in the 16th century, Niccolo Machiavelli wrote: "There is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle than to initiate a new order of things."¹

The establishment of a new order of things is not new to Harvard's medical community. In 1957, the second year pre-clinical program was radically altered with the introduction of a coordinated inter-departmental study of the pathophysiology of organ systems. Although far from perfect, this interdepartmental approach was a significant improvement over the fragmentation that had existed before. In 1965, the third and fourth years were re-organized with the introduction of a Principal Clinical Year, which was to provide greater continuity to the students' patient-care education, and more fruitful utilization of the time previously taken up by a proliferation of lectures. We were the second class to complete the PCY, and in March, 1967 we presented the faculty with an evaluation of our experiences and suggestions for improvement.

As the medical school curriculum has grown by the addition of factual material, it has become evident that even the changes of 1957 and 1965 are not sufficient, and that the curriculum has again become unwieldy, to the extent that it is in danger of failing to satisfy the objectives of comprehensive medical care—objectives that are being set ever higher by the rising expectations of an increasingly more affluent industrialized society for better than minimal health standards.

With these failings and shortcomings in mind, a Faculty Subcommittee on Curriculum Planning submitted a report in September, 1966 advocating sweeping innovations aimed at providing more flexibility to meet the various needs of students with different backgrounds, interests, and medical career goals, as well as to cultivate habits of independent thinking and scholarship. Recommended changes included reducing the amount of factual information and memoriza-

tion pressed on the students by introducing a coordinated interdepartmental "core curriculum."²

Last Spring, a student "Proposal for a New Harvard Medical School Curriculum" was published and distributed to the medical community. Constituting what seven members of the Class of '67 considered the best features of the present curriculum and the Faculty Subcommittee Report, the proposal outlined a detailed plan for a four-year medical school curriculum. Several of the ideas for reorganization contained in the report are original, and some represent the fruits of informal discussion and debate with many classmates and teachers. While these seven students did not pretend to represent either faculty or general student opinion, their report is certainly worthy of careful scrutiny. What makes the proposal valuable is that it was constructed by students who had just completed their undergraduate medical education, and thus were in a position to view the curriculum in its entirety from a perspective that the faculty does not have.

It is beyond the scope of this paper to consider each of the statements and proposals made in the 1967 class report on the PCY, the report of the Faculty Subcommittee for Curriculum Planning, and the student Proposal for a New Harvard Medical School Curriculum. My purpose is to emphasize what I consider to be some of the important themes in these reports, and to make some additional observations concerning the curriculum and the efforts on the part of both teachers and students necessary to make the curriculum work.

The purpose of establishing a new order of things is manifestly to improve medical education at Harvard. But the demands and expectations on the medical profession are so great that a new approach to the structure of medical education must take place throughout the country if the needs of society are to be met. It is in this vein that articles have recently appeared in the literature calling for a new Flexner Report—"a new blueprint for medical education."³ The report *Medical Education Reconsidered* by the Endicott House Summer Study in 1965 goes so far as to say: "It may

Dr. Wesley is a surgical intern at MGH.

This paper was given to the Boylston Medical Society

on April 17, 1967.

be that in the absence of the impact of such a report, no significant change in medical education is likely to be produced."⁴ While it is true that the Flexner Report did have a significant impact on the reform of medical education dating from 1910, it is important to note, as Sherman Mellinkoff pointed out in an article in *J.A.M.A.*, that the Flexner Report did *not* provide a *new* blueprint for medical education. Rather it called attention to and urged emulation of blueprints of excellence which *already existed* at Johns Hopkins and at the leading medical schools of Europe.⁵

The message is clear. What is needed is a working model—not more high sounding and exorbitantly expensive long term studies. As for the blueprint, we have the recommendations of the Endicott House Summer Study with four proposed curriculum plans; we have the well grounded approach to planning a new curriculum submitted by the Harvard Faculty Subcommittee; and we have a detailed proposal for a New Harvard Medical Curriculum. In addition, Flexner himself provided observations, criticisms, and proposals in his second comparative study in 1925 entitled *Medical Education*. Forty-two years ago he wrote: "Medical curricula the world over contain too many subjects as well as too much material. . . . Men become educated by steeping themselves thoroughly in a few subjects, not by nibbling at many. The medical curriculum cannot aim to produce physicians for practice; it can at best so train students that practical experience, in the first instance as interns, will in time mature and equip them."⁶ I will refer to this second work again further on, for it contains much that is as pertinent and applicable now as it was in 1925. Flexner leads me to suspect that the problems we face today have long been with us; only now, the pressures to solve them brought by society on the medical profession are much greater.

In setting up an experimental working model, we must be both imaginative and prudent in the changes we make in the curriculum. The concept that pervades the curriculum critiques submitted by the class of 1967 after the second and

third years may seem self evident, but I think it bears repeating. There are many portions of the present curriculum that are universally regarded by the students as excellent: neuro-sciences during the first year, ophthalmology and neurology at the Massachusetts General Hospital during the specialties rotation, and most facets of the internal medicine rotation at all four hospitals. What we must do is strive to identify the basic principles of those sections of the present curriculum that are effective and worth perpetuating, and use these principles in redesigning the sections that are ineffective and in need of replacement.

In cutting and reshaping the curriculum into a required core with an increased number of elective courses, we must be careful not to cut any one portion just because it appears to be a duplication of some other portion. We must distinguish between wasteful duplication that adds nothing to the student's depth of knowledge, and duplication that presents a difficult concept from a different slant, thus enabling the student to gain a fuller perspective, a deeper appreciation, and more useful understanding. Hence, while it is obvious that the five lectures on parathyroid hormone scattered throughout the 1st and 2nd years were unnecessary and wasteful, it is not as clear that the duplication of lectures in acid-base balance during Area I, respiratory, and renal blocks did not add depth and better perspective to a complicated subject. One might argue, however, that our initial grounding in acid-base during the first year was not sufficient, in that later lectures served to confuse rather than clarify the fundamental concepts for several members of our class. The lectures might have been better redesigned to consider the problems and applications of acid-base from the point of view of several departments simultaneously, thereby imparting a better and more efficient understanding.

As for the clinical part of the curriculum, it is not altogether clear that rotating through medicine in the third year and again in the fourth did not have an advantage over the present extended single medicine rotation during the PCY.

Dr. George E. Miller, in a recent article "Medical Education Research and Development," tells a story which well illustrates the dangers implicit in wholesale elimination of everything that appears to be duplication and waste. He describes the plight of a hospital administrator who had just received a report containing broad recommendations from the president of his board of directors. He responded by returning a set of recommendations of his own to this man who was also president of the board of the local symphony. After sitting through one or two concerts, the administrator wrote:

For considerable periods, the four oboe players had nothing to do. Their number should be reduced and their work spread more evenly over the whole concert.

All twelve first violins were playing identical notes. This seems unnecessary duplication. The staff of this section should be drastically cut. If a large sound volume is required, it could be obtained by electronic amplifier apparatus. . . .

There seems too much repetition of some musical passages. Scores should be pruned. No useful purpose is served by repeating on horns a passage already played by strings. It is estimated that if all redundant passages were eliminated, the two hour concert could be reduced to 20 minutes, and no intermission needed."⁷

Some medical educators have advocated, through pruning the medical curriculum and eliminating duplication, the reduction of undergraduate medical education to three years, with no vacations needed. Such a program might turn out more physicians in a shorter time, but at the expense of breadth of interest, depth of understanding, and the qualities of maturity so necessary in this age when many specialists already fail to appreciate the way disease affects the whole patient. Medical education today may not be a symphony, but we must not lose the major themes in attempting to make its many components more harmonious.

Goals

IN THIS REGARD, it is useful to restate the goals of a medical curriculum. They are simple to outline; difficult to attain.

1. The central concern of a medical curriculum should be identical to that of medicine in general: the problem of *human disease* in all of its ramifications

2. Those teaching the curriculum should continually impart to the student that the first duty of the physician, whether he be clinically, academically, or research oriented, is to the patient. David C. Poskanzer '54, put great emphasis on this point in his memorable presidential address to the Boylston Society in 1966. After every doctor's visit, no matter how brief, irrespective of the seriousness of the illness, the patient should feel somewhat better. If the patient feels like a "body in bed," then we have failed in our primary responsibility.⁸

3. The curriculum must be designed so that the student can acquire a basic fund of knowledge—a core up on which to build. We can not hope to learn all of medicine in four years. At the rate medical science is advancing, a fair amount of what we learn during the first year will be out of date by the time we graduate.

4. Because of the rapid proliferation of new knowledge

and outdated of old, one of the most important skills the curriculum should impart to the student is the ability to organize information and to learn independently. This is the keystone of the core curriculum concept, and one of the major aims stated by the Faculty Subcommittee on Curriculum Planning.

5. To achieve lasting effectiveness, the curriculum must have an inherent mechanism for adjustment and innovation to allow for rapid dissemination of new medical knowledge, and just as important, the utilization of newly developing techniques in education.

Keeping these goals in mind, I would like to emphasize the major themes pervading the 1967 class report on the Principal Clinical Year and the student Proposal for a New Curriculum, and discuss additional weaknesses in the present curriculum which may not have been given the emphasis they deserve.

Curriculum

THE WORD CURRICULUM, derived from the Latin, literally means "a running," or "a race course." It would be difficult to choose a better single word to sum up the experience we have just completed. We do not mind running; we are willing to spend the effort; we have all dedicated ourselves to reaching the goal. We would not object to a course whose track is designed to speed us in the right direction as efficiently as possible. But we do object to the unnecessary obstacles we have encountered along the way—obstacles epitomized by the surgery rotation at the Massachusetts General Hospital and the obstetrics rotation at the Boston Lying-in. Specific weaknesses in any one rotation have been spelled out in the 1967 PCY report and discussed at an open student-faculty meeting. They need not be enumerated here. . . . Certain criticisms however were common to each of the courses that were rated low. Students universally objected to doing scut work or holding retractors when it was unloaded on them as the only work worthy of their lowly station. It is interesting that at the Boston City Hospital where the scut was described as "unavoidably enormous," student objections were not as prevalent, this work being shared by students and house officers alike. Strong objection was tendered the large amount of secretarial work students were required to do on certain services—notably the thoracic services at the Massachusetts General and Peter Bent Brigham hospitals. The argument, by now legend, that entering lab data in the chart acquaints the student with the patient's laboratory profile is a fallacious one—a thin guise for using students as free labor.

Night duty emerged as a very controversial subject. It will probably always be so. Students who had every second night on generally complained that such a schedule left them too little time for reading and often found them too tired to get much out of teaching exercises the following day. Yet when paired with a receptive intern or resident, the students felt the every other night arrangement a good investment, in that it engendered greater continuity of patient care and a more vital learning atmosphere that comes with being a part of the ward team. On some rotations the student served every third night while the house officers served every second

night. Such an arrangement had the advantage of minimizing personality conflicts, and insured the student of his special status as a student and not an intern. However such an arrangement occasionally resulted in the student's being regarded as a disruptive appendage, a situation not conducive to a healthy learning experience. The ideal arrangement existed at the Boston City Hospital in the medical wards where both student and house officer were on every third night.

The criticisms leveled against scut and night duty bring into focus one of the major problems in the present clinical curriculum: the conflict which the student feels between his desire to participate meaningfully in patient care, and his desire for didactic instruction with the opportunity to fill in his deficient knowledge by extensive reading. In the 1967 report on the PCY, the words *role* and *team* occur repeatedly in a number of contexts. The message we are attempting to convey has been stated many ways. I think what we are saying is that we want to contribute while we learn. Sociologists tell us that we are now in our most productive years—we want to do more with these years than prepare for the future. We want to participate, not stand by the sidelines being passively infused with knowledge. We realize our deficiencies where it comes to medical knowledge, and we are not afraid to have them pointed out—in fact, we should welcome it as an incentive to fill in these deficiencies. But I think it is a waste for a hospital staff not to utilize medical students in some meaningful capacity while the students are learning. Students are, in fact, performing useful tasks when they tackle scut or hold a retractor. The crux of the matter is the attitude with which we as students approach these tasks, and the attitude with which our house officers and staff physicians assign them.

I have retracted a liver for the two hour duration of a gall bladder procedure and gotten very little out of it except sore muscles and the assurance afterward that retracting the liver was crucial to the success of the operation. I have also retracted a liver during an eight hour cholecystectomy and pancreatectomy for an islet cell tumor. During the latter procedure I was quizzed on anatomical points and encouraged to ask questions. I was spelled on the retractor and given the opportunity to view more closely the progress of the operation. At the time of closure, my muscles were sore, I was hypoglycemic, and my bladder was full; but when asked to put in some stitches, I jumped at the chance with the enthusiasm of a novice. The first stitch was incorrect but I was shown the proper way, and the operation was completed. The learning benefits far outweighed the physical discomforts, and I felt a part of the team. In the first operation I was being used, in the second I was actively participating.

The attitude of the participants, then, is the *sine qua non* for a successful learning experience. Eighty-eight per cent of the students returning questionnaires rated the MGH surgery rotation as "poor—fair" and eighty-nine per cent rated the obstetrical rotation at the BLI the same way⁹—this at two institutions that have, respectively, among the finest surgical facilities and obstetrical facilities in the country. The attitudes of the house staff toward students at both institutions was found seriously wanting.

Positive features were generally praised by students whenever found, regardless of the rotation. Thus, there did not appear to be a bias against obstetrics per se as ninety per cent of those students responding who had obstetrics at the Bos-

ton City Hospital rated it favorably, while the average response to surgery at the Beth Israel and Peter Bent Brigham hospitals was "good."¹⁰ Features praised were good teaching, opportunities for experience, responsibility commensurate with the student's level of proficiency, constructive criticism of work ups, interest in the student on the part of the staff, and ease of rapport with house officers. Invariably, these qualities were found in any portion of the curriculum where house officers and staff physicians took their teaching responsibilities seriously.

It follows that if the staff physicians are conscientious in carrying out their teaching responsibilities, they are going to carefully plan an effective program before the students arrive on the service, and oversee its operation while the students are active on the service. One of the major findings that emerged from the 1967 class report, and one not too surprising, is that there was a high correlation between the degree to which the student program was pre-planned and the success of the rotation.

Another important factor closely correlated with pre-planning, and common to most of the highly-rated programs, was the amount of communication or "feedback" between faculty and students. The medicine rotation at the Beth Israel Hospital is a case in point. Drs. Howard H. Hiatt '48, Harry R. Nesson, and the teaching resident established a routine providing for feedback from students at every juncture in the rotation. Each of us was requested to make an individual appointment with Dr. Hiatt during the first three weeks, and the entire group met with him on two occasions later in the twelve week period. On all three occasions we were able to discuss and debate our specific ideas, criticisms, and suggestions. Our suggestions were not always acted upon—they were not always practicable. The decision rested where it ought to—with the physicians who were responsible for the organization of the course. What we as students appreciated was the opportunity to express our ideas—to be taken as serious, responsible members of the medical community contributing to the task of constant re-evaluation that must be part of any program that strives for continued improvement.

The MGH surgery experience is an example of what can happen when lines of communication break down between students and staff physicians responsible for program policy. Once the legitimate complaints of the students reached the chief of the department, and it was realized that these complaints were not isolated, changes were instituted which have since improved the student program tremendously.

Criticism of the Introduction to the Clinic held a special place in the 1967 class report. Only after completion of the PCY could it be properly evaluated. Most students felt that under the present system there was little continuity between the first two years and the last two, and that the Introduction to the Clinic did not bridge the gap. There were two reasons for this failure (1) Neither students nor instructors had a clear idea of what they were to accomplish during the three month period; and (2) insufficient emphasis was given to teaching the meaning of disease in the context of a clinical situation. It was suggested that this time might be better spent as a modified internal medicine course with closely supervised intensive patient contact and follow-up, with special emphasis on physical diagnosis, history taking, and case presentation.¹¹

As a step toward eliminating the discontinuity that exists between the pre-clinical and clinical years, the Faculty Subcommittee on Curriculum Planning has proposed that first and second year students be exposed to patients earlier in the curriculum than they are under the present system. Flagging humanitarian motivation has been cited by some students and faculty as a primary consideration in making this revision. Flexner makes a point in his 1925 Report on Medical Education which is still pertinent today:

Interest is indeed at every stage a powerful educational factor; but mature young men, at the stage of college graduation or thereabouts, may fairly be expected to put forth effort in anatomy and physiology without being at every step amused or misled, as premature playing with clinical problems is bound to mislead them. . . . The physician's capacity for growth in his profession largely depends, like the engineer's, on his grasp of the underlying sciences. . . . A clinical illustration may indeed clarify the students' comprehension of a fundamental principle or fact; but, at least in excess, it is more likely to excite a superficial interest in symptom or remedy.¹²

A tack, different from either that of Flexner or the Faculty Subcommittee, is taken by the student "Proposal for a New Curriculum." It is more tuned to the real problem that of the increasingly varied and sophisticated backgrounds of entering medical students:

We would question whether decline in motivation is not more accurately correlated with the oppressiveness of the current curriculum, especially during the first year, rather than with the lack of patient contact. We think the provision of a large amount of time during which the student may maintain his motivation in any way he wishes would more adequately solve this problem. Certainly, one important elective available to the first and second year students should be an opportunity to deal with the patient on a one-to-one basis, but we do not feel this should be required of all students.¹³

Whether or not students are eventually introduced to patients earlier in the curriculum, it would appear vital that more attention be given to the increased interplay that is developing between medicine and the socio-economic structure. As James M. Faulkner '24, former dean of Boston University Medical School wrote 17 years ago: ". . . Even if all the information acquired in the individual courses is synthesized, it is still inadequate if it does not take into account the environment and the patient's reaction to it."¹⁴

Because of the present structure of the curriculum, students are generally limited to the study of a patient's immediate disease process—the pathophysiology, diagnosis, and in-hospital treatment. Not enough opportunity has been made available for consideration of the whole patient, for study of the total impact of the disease on the patient's life, on his family, on his future plans. How many of us have sat down and discussed with a patient recuperating from a myocardial infarction the limitations he will have to impose on his everyday life after leaving the hospital? How often have we had the opportunity to follow up on such a patient in the hospital clinics? Moreover, in this time of increased need for ancillary hospital and health facilities, we have had very little, if any, practical instruction in the efficient use of social service, psychiatric service, physio-therapy, occupational therapy, chronic care hospitals, nursing homes, the

Visiting Nurses Association, and others. How many of us are going to know how to provide the best total care for our patients when these responsibilities are thrust on us as interns?

It would not be difficult to remedy this deficiency in the curriculum. Perhaps one day a week during the medicine rotation could be devoted to out patient follow-up and discussion of the available ancillary facilities. An excellent nucleus for a student program in this area already exists at the Beth Israel Hospital, where students spend one afternoon at some point during the medicine rotation visiting patients and facilities under the Home Care Program. Last year's Public Health Club, the fourth year public health paper, Dr. John Kosa's seminar on Medical Sociology, and the current Family Health elective are examples of similar programs, the best features of which should be encouraged and incorporated into the new curriculum.

Several programs and philosophies in the present and newly proposed curriculum have been mentioned. I would now like to consider the efforts on the part of both teachers and students necessary to make the curriculum succeed. Again, Abraham Flexner put the problem in beautiful perspective 42 years ago:

We have seen that the medical school cannot expect to produce fully trained doctors; it can at most hope to equip students with a limited amount of knowledge, to train them in the method and spirit of scientific medicine, and to launch them with a momentum that will make them active learners—observers, readers, thinkers, and experimenters—for years to come. We have concluded, too, that the general arrangement of the curriculum, if sound, can make this task a bit easier, or if unsound, a bit harder; but in general much more—very much more—depends on teacher and student than on curricular mechanics or teaching devices.¹⁵

Teaching

AS STUDENTS, our first encounter with the medical school teacher is in the lecture hall. In the last several years, there have been a growing number of critics of the lecture method of teaching, and most agree that the systematic, didactic lecture, to be effective, must be sparingly employed.¹⁶ The students' power of assimilating information, no matter how well organized, is limited; the saturation point is soon reached. As the ancients used to say, "Your dull ass does not mend his pace with beating." Flexner summarized the characteristics of a good lecturer well when he said: ". . . good teachers accomplish most, not by painfully consuming their time and energy in over-elaboration that does everything for the student, but rather by the vigor, originality, and freshness with which the day's theme is expounded without being exhausted"¹⁷

One of our class heroes in this regard was George Erikson (now professor of anatomy, Brown University), who, with his vibrant phrase "have you been thinking about . . ." stimulated students to engage their neurons with subjects which indeed before they hadn't been thinking about.

And then there was pharmacology with Paul R. Draskóczy—one of the bright lights in those dark days of the second year when we had four and five lectures a day. After Dr. Draskóczy had finished his sparkling well planned deliveries, students in my section would quietly exclaim with enthusiasm

and approval as they got up to leave, "Stand Tall with Paul!"—a phrase which an outsider couldn't appreciate unless he had been subjected to 2–3 hours of generally pedestrian lecturing beforehand.

All of this brings us to the consideration of how we as students express our appreciation for excellent teachers. Clapping has its place in a lecture hall, but under other conditions, particularly on the wards, it is inappropriate. At all times it seems inadequate. Some of us have occasionally spoken to a faculty member personally or written notes of appreciation after a course or teaching session that has been particularly stimulating and beneficial. Election to the Presidency of the Boylston Society has traditionally been a means of recognizing superior teaching among the faculty. Unfortunately, or fortunately for us, there are always more fine teachers than we can recognize in this manner. On rare occasions, students are privileged to enter into a learning partnership with a teacher whose enthusiasm, vitality, intellectual honesty, and mastery of the subject matter demand extra special recognition. Such an occasion occurred at the conclusion of the endocrinology elective at the Massachusetts General Hospital. Daniel D. Federman's '53 teaching was of such a distinguished caliber that his students presented him with an *ad hoc* award: the Order of the Golden Thyroid.

By the foregoing account, it will be seen that there is actually precious little that we as students can do to recognize excellent teachers and bring their quality to the attention of the rest of the faculty in a formal way. Our goal, of course, is to increase their numbers, since their presence is so vital to the continuation and improvement of medical education. We take great joy in seeing good teachers advance on the academic ladder, and we are sorry, sometimes bitterly disappointed, to see them fail to receive tenure and forced to move on.

The process by which a medical school selects a faculty and singles out certain members for advancement is strange and mysterious to the medical student. At times it seems to us that while much is said about the importance of good teaching, this has never been the primary factor in a teacher's advancement. Former dean, George Packer Berry, raised a question in an article 14 years ago that to my knowledge has never been answered satisfactorily. "Are we deans guilty of implementing a kind of administrative schizophrenia in our selection of teachers, which prompts us to choose a teacher on one basis (to teach students) but to appraise him on another basis (research ability)?"¹⁸ After discussing the factors by which a teacher should be judged including an appreciation for the students' need for basic knowledge, and articulate delivery, Dr. Berry went on to write: "What we really want are teachers who manifest a spirit of experimentation in their teaching and who are as much concerned with the process of achieving ends as with the ends themselves. In other words, we want teachers who are concerned with the modes of the students' thinking more than with the facts that he is memorizing."¹⁹

Most of us would agree with those educators who maintain that a student cannot be trained abreast of the times, nor launched as an imaginative investigator unless he studies under teachers who are active workers, or actively keep up in their field. But in an institution where teaching and investigation must perforce encroach upon a common fund of time

and energy, we ask that the various tenure committees recognize and allow for the fact that some of the young faculty may be more interested and given to teaching than to research, as well as the other way around. The problem cannot be solved by formula, but we do need a better balance. As Flexner wrote:

... The welfare of science and the welfare of the student are alike most effectively safeguarded if faculties and indeed departments are constituted of men of different types, supplementing, stimulating, or even in some instances ignoring one another, and if students are . . . free to migrate in search of the opportunities and contacts most likely to help them.²⁰

With regard to the supply of good teachers, the Faculty Subcommittee on Curriculum Planning made the recommendation that more time and effort be expended in "teaching the teachers to teach."²¹ David Seegal '28, emeritus professor of medicine at Columbia College of Physicians and Surgeons, has been advocating such a policy for several years. He writes that "in the face of the accolades currently showered on the educator, it is surprising that teaching is the only area of medicine in which the preceptor fails to receive comprehensive training."²² Apparently there exists a common myth that an MD degree qualifies its holder for effective communication of fact and opinion to patients, students, and colleagues, and that effective teachers are born and the discipline cannot be taught. Yet it is well recognized that medical doctors can be very poor at effective communication, and Dr. Seegal cites many examples of pedagogical devices that he has incorporated into the Columbia medical curriculum which have been effective in improving the ability of physicians to communicate and teach. In hospital training studies, however, Seegal finds that "indoctrination to medical pedagogy has proven to be more successful during a man's student days than during his post graduate years."²³ He has observed that the MD degree too often becomes a barrier to frank advice from a teacher's contemporaries. This is a rather sobering commentary, and confirms observations which some of us have already made as students—that some of the physicians we have encountered no longer maintain the persistent studenthood and willingness to admit and correct ignorance that is so necessary for continued proficiency in the constantly changing world of medical science.

Yet these physicians are not alone. We as students have fallen into bad habits, perhaps without being aware of it. While all of us dutifully and compulsively took reams of notes during our first and second years, how many of us take even minimal notes at the bedside or on ward rounds? Dr. Seegal inquired into this phenomena, specifically questioning five senior students at Columbia. They admitted the usual failure during rounds to note new facts and references for subsequent learning, and offered three explanations: (1) the optimistic belief that the visit would give a complete account of new data and that they would remember this information; (2) the vivid pathologic state of some patients often distracted their attention from taking notes; and (3) each time they jotted down a subject for future study they were publicly admitting ignorance, particularly if their comrades refrained from this practice.²⁴ A similar reluctance to admit ignorance is responsible for a student's often palaver and

avoiding the response, "I don't know" even when it is clearly indicated. Though a very human reaction, this is clearly not an intellectual attitude conducive to repairing deficiencies in knowledge in a profession where guesswork or being almost right only invites disaster.

Dr. Seegal's approach is to convince the student through a series of pedagogical devices (Fig. I.) that jotting down notes at the bedside is a habit that must be cultivated to maintain an upward slope in clinical education; and that the declaration, "I don't know" is a common reply of a good doctor and that his prestige is rarely diminished by adopting this attitude.²⁵

The most effective way to insure that the medical student will cultivate good habits of independent thinking and scholarship, and to prepare him to meet his future teaching responsibilities, is to teach the medical student to teach. By making the student an active partner with the house staff and visit in evaluating, discussing, and reading about clinical problems that arise, the knowledge and intellectual honesty of all concerned will be enhanced. Moreover, when the student is given supervised responsibility for teaching, as in imparting information to patient or family, preceptor sessions, bedside rounds, and amphitheater meetings, he can at the same time begin to select those pedagogical techniques which may be useful to him in the future. Some teaching opportunities for students already exist in the present medical curriculum. One member of our class has taken the initiative to teach a series of first year "anatomy significance seminars" which have been very well received. It would be to both the students' and teachers' advantage if more of such opportunities were provided in the new curriculum.

In the preceding pages, I have touched on a number of subjects which I consider central to the issues raised by the current impetus for change in the medical curriculum at Harvard. I have attempted to restate the goals of the curriculum, to consider certain philosophies in the present and newly proposed curriculum and discussed the central role which the efforts of students and teachers play in the success of medical education. As the writings of Abraham Flexner, George Packer Berry, and others show, our problems are

1. The CML² reflex for learning on ward rounds:

C = Cerebrum
M₂ = Manus
L = Liber x Liber (notebook plus appropriate textbook or journal)

2. C + (PM)^{cc} = OS

C = Chance
PM = Prepared Mind
cc = Coccygea-calcaneal position (leisure time to reflect sitting with heels on the desk)
OS = "Open Sesame," which according to Funk and Wagnall's Standard Dictionary of 1897 is a "charm to secure entrance or exit through any portal, especially to secure admission to some desired place of sphere."

3. Ic ne wāt = the old English equivalent of "I don't know" Used on ward rounds to assist the student in overcoming his natural reluctance to admit deficiencies in his knowledge

Fig. I.

not new—but there is a new and mounting pressure for us to solve them.

I believe that the student efforts during the past two months have shown that we take our role as constructive critics of the curriculum very seriously. We believe that we have something valuable to contribute; we want to participate. In partnership with the faculty, we now have the plans; we have the energy and the intellect. The time has come for action.

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HOW the CURRICULUM has been REVISED

by Alexander Leaf, M.D.

Jackson Professor of Clinical Medicine
Head of the Department and Chief of the
Medical Services at the MGH

AFTER A WINTER OF frequent meetings a Subcommittee on Curriculum Planning of the Curriculum Committee submitted in May, 1966, a report to Dr. Robert H. Ebert, Dean of the Medical School. This report was circulated to the Faculty in the Fall of 1966, and served as the basis for discussions during the next year. The spirit of this report can be sensed from the first few paragraphs which read:

In a time of great social upheaval and rapid developments in science no profession with its roots in science and its goal to serve society can remain unaffected by the changes taking place about it. Medicine today is such a profession. There has perhaps been no period in its long history when the demands and expectations on Medicine have been so great. The demands arise from the rapid increase in the world's population, the increasing affluence of modern industrialized society with its ability to pay for better than minimal health standards and the expectation that Medicine can reduce suffering, conquer disease and assure to all a better life free of physical and mental illness.

These demands and expectations have created new and diverse roles for the Doctor of Medicine. Proficiency in entirely new areas of health protection, e.g., radiation safety, environmental pollution prevention, population control, etc., is expected while traditional patterns of medical care are severely challenged. To survive, Medicine must evolve new patterns to deepen its roots in science and broaden its scope of service to society. Natural selection is too slow a process to insure survival; careful planning must proceed on several fronts. A clear view of the many roles expected of the physician should lead to an education which will prepare him for the diversity of services expected of him. This view must lead to a reconsideration of the curriculum in medical school and proceed with bold innovations in both pre-medical and postgraduate education.

The aims of a new curriculum should be:

1. To allow more flexibility to meet the various needs of individual students that arise from differences in background, interests and choice of future careers in medicine.

2. To cultivate habits of independent thinking and scholarship which will insure continuing assimilation of new knowledge after graduation.

To accomplish these aims it seems necessary to:

1. Reduce the amount of factual information and memorizing pressed upon the students, and to allow time for students to read, discuss and think in the atmosphere of a graduate school, rather than of a trade school.

2. Teach a "core curriculum" in a limited time by a coordinated interdepartmental activity.

3. Increase time in all years for elective courses designed to explore subjects in depth and taught primarily on a departmental basis.

4. Intermingle biological, behavioral and clinical sciences throughout the curriculum so that the student acquires a real sense of how the third draws its strength from the first two.

5. Maintain the motivation of most beginning students to help suffering humanity by introducing them early in their training to patients. This should be done in exercises designed to increase students' awareness of the emotional and socio-economic aspects of illness as well as to reinforce the importance of the preclinical sciences to pathophysiology of disease. An increasing responsibility for the care of patients, as rapidly as background and clinical skills permit, should also be provided.

BY THE SPRING OF 1967, sufficient discussion had ensued to permit adoption of ten crucial principles by direct vote of the Faculty. The following statements were all voted affirmatively:

1. Students who have substantial background in certain preclinical subjects should be provided with modified or alternative courses or with other opportunities rather than be required to take the regular course in that subject.

2. Students should not all have essentially the same medical education (except for an elective period in the fourth year) regardless of interests and future goals.

3. Some time for elective courses chosen with faculty guidance should be provided during each of the four years.

4. A special program should be developed for the student with a strong commitment to a career in research related to medicine.

5. Every student should not be required to take a course in each clinical specialty.

6. Provision should be made to augment the teaching of the behavioral and social sciences during medical school.

7. A common educational experience should be defined by the Faculty for the guidance of the individual departments.

8. Students should have an earlier direct contact with patients.

9. There should be a faculty group designated to examine available techniques and methods for improving teaching.

10. It is the corporate responsibility of the Faculty to develop adequate methods of evaluating the various courses, and when necessary to recommend actions designed to bring about improvements.

These statements may not appear to be the Magna Charta which ushers in the millenium of medical education, but they do contain within them the seed for bold innovations. This provided the mandate from the Faculty with the strong support of Dean Ebert to proceed with detailed planning and implementation of a new curriculum. At the time of this writing the task is by no means completed but details are being filled in for the course of study in the first two years with the expectation that September, 1968, will see the Class of 1972 embarking on the new program.*

Two large groups of the Faculty were appointed in the Fall of 1967 to consider the subject material in the basic science of medicine to which all medical students should be exposed. Group A headed by Elkan R. Blout, Edward S. Harkness Professor of Biological Chemistry, was to consider molecular and cellular biology and Group B headed by David D. Freiman, Professor of Pathology at the Beth Israel Hospital, was to expand the current course in pathophysiology. After completing a considerable amount of homework, Groups A and B met separately on successive weekends in October, 1967, to arrive at the contents of the "core" curriculum. A cooperative and understanding attitude on the part of Group A participants led to speedy agreement on the content of this portion of the curriculum. This group got home a day earlier than expected! The more diversified interests of Group B were less readily resolved and the full weekend was required to reach some consensus on the content of the teaching in human biology.

*On February 23, 1968, members of the Faculty of Medicine gave their approval and voted to begin the new program of revisions in the pre-clinical curriculum by September 1968.

The initial blackened strip at the start of the first year indicates Orientation Week. Subsequent black strips signify reading and examination periods. The vertical broken lines in Semester I and II indicate Christmas and Spring vacations, respectively. The scheduling of electives in the first and second semesters allows the student, with faculty counsel, to replace any semester or portion thereof of scheduled instruction with a block of elective time. The semester schedule is the same as that used at Harvard University and M.I.T. allowing for possible electives in Cambridge.

It is appreciated that all medical students will have to be raised to a certain level of sophistication in their understanding of the biological science basis of medicine. It is apparent that an increasing number of students entering medical schools are now acquiring this background during their undergraduate training in the excellent biological science courses now taught on many university campuses. Therefore, it seemed reasonable to group the teaching of Area A (Cell Biology) at the start of the medical curriculum and preserve the traditional departmental responsibility for teaching this part of the core. This would allow the adequately prepared student to enter medical school with advanced standing and permit him to skip over identifiable portions of the curriculum in the first semester and replace these with electives which will be offered throughout the year.

WITH general agreement on the content for the core curriculum for the first two years, Drs. Blout and Freiman returned to the drawing board to fit the subjects and hours into a feasible schedule. The results of their planning is shown schematically in subsequent figures.

Figure 1 shows a tentative format for the full four year curriculum. It is premature to do more than sketch in years III and IV. The planning for the clinical curriculum is just picking up momentum now that the first two years have been plotted out and no more will be said about the last 2 years here.

The molecular and biological sciences of Area A (Cell Biology) fit rather neatly into the first semester. It is thought that this should be preceded by one week of orientation for all entering medical students. This week would be devoted to a presentation of the overall aims of the medical curriculum to be illustrated by clinics and visits to the hospitals. Some formal device as this Orientation Week should allow the student to comprehend the curriculum. With this start it is hoped that rather than impatience and frustration on the part of the student there will be understanding of why a strong scientific background is essential to the intelligent care of patients.

This is not to imply that much more effort will not be expended to continuously emphasize the relevance of the preclinical teaching to the clinical situation throughout the first semester. Three means will be utilized to attain this desirable end. The present Saturday morning correlation clinics will continue, but in addition, time is allotted for the preclinical science departments to intersperse their lectures with clinics whenever a case or clinical situation can be used to emphasize the relevance of the didactic material to

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00	Cellular Physiology	Biochemistry	Histology	Biochemistry	Biostatistics	Biochemistry
	Histology	FREE	Bacterial Physiology	Bio- Chemistry	Behavioral Science	Clinic
	FREE		Clinic		FREE	FREE
1:00	Histology Laboratory	FREE	FREE	Laboratory	Behavioral Science Clinic	
5:00						

HUMAN BIOLOGY

Feb.3

Period I - 18 weeks

Jun 9

II

Jul 24

A	B	C	D	E	VACATION
GROSS		ANA	TOMY	6½ weeks	6½ weeks
FREE			FREE	FREE	

Sept 8

Period III - 21 weeks

F	G	H	I	J	K
EXAMINATION OF THE PATIENT					
FREE					FREE

Third Period

F. Hematology
(72 hrs)

G. Respiration
(50 hrs)

H. Renal and G.U.
(42 hrs)

I. Infection
(126 hrs)

J. Endocrine
(48 hrs)

K. Reproduction
(40 hrs)

Winter Vacation
(2 weeks)

Free Time
(3 PMs/wk)

Examination

of

the

Patient

(126 hrs)

First Period

A. Human Genetics,
Development,
Neoplasia,
Radiation
Effects
(52 hrs)

B. Bone, Joints
Muscle
(64 hrs)

C. Heart and
Circulation
(91 hrs)

D. Gastrointes-
tinal System
(80 hrs)

Behavioral
Science
(14 hrs)

Spring Vacation
(1 week)
Free Time
(3 PMs/wk)

Gross

Anatomy

(164 hrs)

Second Period

E. Neural Science (102 hrs)
Neuroanatomy
Neurophysiology
Neuropharmacology
Neuropathology

Free Time (3 PMs/wk)

Figure 3 (left top). A representative week from the middle of Semester I.

Figure 4 (left bottom). Human Biology I, II and III.

the problems confronting patients and the physicians who care for them. The Behavioral and Social Science group will, in addition, have a half day each week to work with the students in small groups in a variety of field experiences. It is expected that these experiences will bring students into direct contact with individual patients and develop an appreciation by the student of the social, economic, and psychological problems created in the patient, his family and associates, and in the community by his illness.

Figure 2 shows the semester of Cell Biology in more detail and Figure 3 shows the details of a representative week. Emphasis on an uncluttered schedule with ample free time for the student to devote to study is quite compatible with inclusion of the core material for the molecular and cellular biology courses within a single semester.

Figure 4 indicates that Human Biology is to be taught in blocks. Gross Anatomy, considerably curtailed, is the exception in Human Biology I and Case Taking the exception in Human Biology II. These two courses will run longitudinally through the respective two semesters and serve as the skeleton supporting and integrating the individual blocks. With a few notable exceptions these blocks are built around individual organ systems after the model of the currently successful Pathophysiology and Neural Science teaching. Committees of experts representing various departments will join together to bring our best teaching talent to bear on the presentation of normal and abnormal structure and function of the respective organ systems. New blocks such as that on Infectious Diseases will allow medical bacteriology, immunology, epidemiology, and parasitology to be drawn together and presented in a coordinated relevant manner.

Human Biology II is conceived of as 6 weeks devoted to the coordinated teaching of the neural sciences including neuro-anatomy, neurophysiology, neuropharmacology, and neuropathology. Needless to say the actual scheduling will remain the prerogative of the committees and departments responsible for each block with the overall supervision of the Faculty through the Curriculum Committee.

A glance again at Figure 1 will indicate the flexibility built into this curriculum plan. The semesters are coincident with those at Harvard University and Massachusetts Institute of Technology so that courses at both schools will be available to the interested student during the elective periods. A student, admitted with advanced standing, might substitute electives during the first semester for courses in which he has demonstrated competence. Since electives are scheduled during the first semester—see year IV—this creates no special or individual problems. Although it is expected that almost all students will commence Human Biology I in the second semester of year I, it would be simple for the interested student to go directly into an Elective Period—see second semester of year II. Likewise Human Biology III could be re-

placed by an elective semester and Human Biology II might be delayed until the second year, if desirable. Because of the inclusion of Anatomy in Human Biology I it would seem likely that this course would precede Human Biology III but even the order of these two courses might conceivably be reversed.

CLEARLY THE PURPOSE

of such flexibility is to permit the individual student to proceed as best suits his interests and background. It also brings an unprecedented importance to the elective courses in contrast to their minor status currently. They will now become an integral part of the curriculum. They will provide the experience in depth required for attainment of scholarly attitudes and simultaneously give the desired flexibility and individualization to the curriculum. The success of this admixture of required core curriculum and electives will depend upon careful planning of the Subcommittee on Electives and Tutorials. The student will need faculty advisors who are perceptive to his needs and far sighted in the student's interests and those of society.

To cite again the Curriculum Report of 1966:

The advantages accruing to the faculty from this admixture of required core curriculum and electives should also not be overlooked. It is hoped that this mixture will provide more than a safety valve for those members of a distinguished faculty who may suffer frustrations by their participation in a coordinated program of teaching. These same faculty will have complete freedom of action and expression in the elective offerings they provide. Opportunity for scholarship and distinction in teaching will be fostered with the likelihood that more great teachers will develop in this system. Our present block and coordinated teaching is so geared to an accepted urgency to teach everything to every student that it permits little opportunity for development by the faculty of presentations with distinctive personality and philosophy. An occasional lecture here, or seminar there, does not engender the kind of teaching experience which brings the students to sit at the feet of the scholar, nor does it stimulate the teacher to mull over, reconsider his facts and premises, view his special area from all sides and interrelate his cherished intellectual offspring with other currents of contemporary thinking. . . . Even his ideas for his research program will undoubtedly benefit by the need to be expressed clearly to critical and fresh minds. It would seem that faculty as well as students will gain from such changes.

Finally, it should be emphasized that the goal of a new curriculum is not simply to reshuffle hours; this at best can only facilitate the learning experience. "The essence of education is to bring the intelligent motivated student together with the sources of knowledge. The role of the teacher is to reduce to a minimum the activation barrier separating the two. There is no substitute for knowledge and enthusiasm for his subject in a teacher but sometimes these ingredients are insufficient." The Curriculum Committee has commenced to look at the educational practices and techniques currently in use and reappraise them with the help of some members of the School of Education. Much thought will need to be expended in this reappraisal before full benefit accrues from any curriculum reform. At least the start has been made.



This is the first in a series of articles about other medical schools whose deans are graduates of HMS. As firm believers in continuing education, the Bulletin hopes its readers will be interested in learning what is going on elsewhere.

REVISION AT RESERVE

by Frederick C. Robbins '40

IF ABRAHAM FLEXNER WERE to make another survey of the country's medical schools today, he would have no reason to revise his judgment of 1910 that "Of the future of Western Reserve there is no doubt . . . it is already one of the substantial schools of the country. . . ." This year the school marks its 125th anniversary with a new name, a five acre construction site in its back yard on which is rising some \$30,000,000 worth of new facilities, a strong faculty and a highly motivated student body.

That Joseph Treloar Wearn '17 was somewhat reluctant to become dean of Western Reserve School of Medicine in 1945 had a great deal to do with the notable position in medical education that the school occupies today. Since he had been appointed professor of medicine in 1929, Dr. Wearn had run a strong department, and he made it plain that he would take the same course with the medical school. His terms of acceptance were: complete budgetary freedom; the right to raise funds for the medical school; ready access to the president; the right to rebuild departments; and the backing to reappraise the entire curriculum.

At that time the 100-year-old Ohio institution, which had been on the verge of complete bankruptcy during the worst of the depression years, was still in precarious financial shape. Promising young faculty were leaving, and it was impossible to attract new men to take their places. In the first months of Dr. Wearn's administration, the picture began to change. Two loans, totalling \$850,000 from its clinical affiliate University Hospitals of Cleveland, marked the turning point. This, plus several grants from local and national foundations, made it possible to start rebuilding.

During his years in wartime Washington as chief of the division of physiology, Committee on Medical Research of the Office of Scientific Research and Development, Dr. Wearn had come to believe that something was seriously wrong with medical education as it then existed. Long evenings of conversation with A. N. Richards, A. R. Dochez, A. Baird Hastings, Chester Keefer and Detlev Bronk had brought to light the problems of a profession that was literally being buried in new knowledge. It was obvious to these leaders in medical education that after the war there would be great pressure from the public for government support of research. They agreed with Vannevar Bush that medicine would lose out on the new generation of scientifically oriented students unless it changed its image as "tedious and dull, requiring the memorization of a great deal of material the student knew he could not retain."

Dr. Wearn was convinced that medical schools had been remiss in failing to harness the energies and enthusiasms of the younger faculty members who, although responsible for most of the daily routine of medical education, had no sense of participation in planning it.

The ferment of new ideas in medical education was taking place in many schools in the United States. Harvard was experimenting with a different approach to the Ph.D. program; while Boston University, the graduate and clinical schools of the University of Pennsylvania, Bowman Gray, Cornell, the University of Colorado, and the Medical College of Virginia, were starting to consider various types of

correlated teaching. Western Reserve, however, proposed to revise its entire curriculum.

Although the Reserve program as it finally evolved may be said to mark an historical turning point; although nearly 1,500 medical educators from all over the world have spent from two days to two months in Cleveland studying its operation; and although several schools in the United States, England, and other parts of the world have incorporated certain of its features into their own curriculum, the Reserve planners had no intention of setting up a model for medical education. They were simply trying to correct the defects in their own existing curriculum.

That Reserve could make a clean sweep in its own planning, and could lay down an almost completely new foundation for a four year program was the result of one of those happy historical combinations of the time, the place and the man. Short of starting up a new medical school, few deans have had the opportunity to appoint eleven out of thirteen department heads in seven years; or in that same time to name eighteen new professors out of a total of twenty-seven.* Dr. Wearn sought men who were accustomed to cooperative efforts in research, who were interested in educational progress, and who could provide leadership in an educational program as well as in research.

The crucial step in rebuilding Reserve was the creation of the General Faculty, including assistant professors and one senior instructor from each department. The General Faculty has complete responsibility over the departments for curriculum planning and student affairs. This powerful but democratic body, which numbered 250 in 1947 and 450 in 1967, works through its Committee on Medical Education. It is this Committee that has developed a curriculum that is always subject to change and has made the teaching of medicine at Western Reserve an organic phenomenon of all the faculty.

Thomas Hale Ham, the first chairman of the CME, has done a remarkable job, as much because of his attitude as his approach. From a course he developed in laboratory diagnosis for second year medical students at Harvard, he brought to Western Reserve two concepts; the necessity of cooperation among the teaching disciplines, and the importance of active participation by the student in the learning process. He recognized that any changes which were made would have to be effected within the departmental structure, but with extensive crossing of rigid departmental barriers.

"It is easier to move a graveyard than to change a curriculum," is one of Dr. Ham's favorite remarks, and in some ways the planners moved as slowly as if they were doing just that. Two years were devoted to defining objectives—always a painful thing for a faculty to do. At no time since 1910 had anyone taken as long a look at medical education, in relation to what went on before and after the formal period in medical school.

The broad definition that emerged charged the faculty with the responsibility for giving the student the comprehen-

*One of these being Robert H. Ebert, appointed Hanna-Payne Professor of Medicine and Director of the Department in 1948.

sive knowledge and skill he must have, while developing in him the correct attitudes of a physician for patient care in relation to the community. It was deemed necessary to instill in the student an enthusiasm for self-education that would stay with him throughout his professional career, and to give him experience in the scientific method of attempting to solve unfamiliar problems. To accomplish this, medicine would have to be taught as a whole concept rather than as a series of unrelated disciplines; the medical student too would have to be thought of as a mature person, capable of taking increasing responsibility for his own education in the atmosphere of a graduate school.

The now familiar mechanisms by which this was to be accomplished need not be detailed here. They include subject committee teaching of organ systems, with the use of multidisciplinary laboratories; the division of four years into phases dealing with normal structure and function, abnormal structure and function, and clinical application; extensive use of syllabi to inform the student of what he is expected to know; free time for the student to develop his own interests on his own initiative; a research project done in some depth; introduction to the patient in a community background at the beginning of the first year. Of great importance is the limited grading system on comprehensive examinations, which are taken on an anonymous basis, with grading limited to pass or fail, and later, honors. Ranking of students by grade has been abolished.

Ten years elapsed from the beginning of the planning to the graduation of the first class, and now ten more classes are scattered around the world in training, military service, and the practice of medicine. It is obvious that some estimation should be made of how well these young physicians have been served by their participation in what was, in a very real sense, a pioneering venture in medical education.

This is, of course, a question which can never really be answered, for formal education can only be assessed as a part of the life experience of an individual, and it is very unrewarding to try to apply a specific yardstick of evaluation. Certainly these young men and women—their performance, their attitude, their reactions—have been well followed, surveyed and analyzed. It is true that they have indicated to interviewers that they liked the idea of accepting a large measure of responsibility, that as a whole they have done well on the National Boards, that their level of acceptance for graduate training is high. But possibly none of this is definitive. Perhaps, as Associate Dean John L. Caughey, Jr., has said, the most important criterion of success is the enthusiasm of the students and faculty for their educational experience. And none of them would return to the old ways. Dr. Caughey points out, "if the physician in training becomes enthusiastic about medical science while in school, he is more likely to remain enthusiastic about the practice of medicine, no matter what field he goes into."

DR. WEARN WAS SUCCEEDED in 1959 by Douglas D. Bond, whose seven year administration spanned a time of new challenges to the medical profession, including a still wider increase in basic knowledge and strong pressures for its application to the care of the patient. Under his leadership, plans were made and implemented for a considerably larger and greatly enhanced medical school, which will allow for increasing the student body by one

fourth, beginning in 1970.

During these years, too, another look has been taken at the curriculum, in accordance with the dicta of the original planners, who held that in such an ever-widening and changing field as medicine, no program could ever be static. There has been no thought, needless to say, of going back to the old idea of purely departmental teaching. Rather, in the establishment of a Committee on Revision of the Curriculum, there has been an effort to realize more fully some of the original goals, and to develop some new concepts which had not entered into the thinking in 1950.

Although this new evaluation of the Reserve program was originally directed to problems which had arisen in clinical teaching, it was found that these really related to all four years. A major overhaul has been planned, with some features to go into effect next fall. Fundamentally, the revisions represent a strong feeling on the part of the faculty that the student must be treated as an individual, with consideration given to his background and preparation for medical school, and to his opportunities to establish career goals as early as possible.

Efforts are being made to endow the curriculum with more flexibility, in both the clinical and basic science areas. There will be an earlier introduction of clinical clerkships, with a largely elective fourth year. Options and independent courses in the basic sciences will make possible "tracking" students according to background and interests. Changes have been instituted to relate the normal to the abnormal with the introduction of basic pathology early in the first year, and teaching by organ system will be supplemented with a course in integrated biology. The area of social medicine will be broadened to permeate the entire teaching program.

In fortuitous conjunction with the revised program, a grant from the Carnegie Corporation of New York will allow development of teaching methods and material to enable the student to educate himself more readily, by assuming even more initiative in learning from problems, syllabi and other techniques, rather than from emphasis on lectures and demonstrations.

My own stewardship of the school began a year and a half ago, at a time when medical schools were being asked to produce more physicians, to provide leadership and guidance in the development and evaluation of health care programs, to furnish educational assistance to developing countries, and to undertake programs of continuing education for the medical profession. With the federation this year of Case Institute of Technology and Western Reserve University, we have become Case Western Reserve School of Medicine, with some problems of integration, but with the greater benefits of new resources of scientific skills and research which are now available to us.

Obviously, we will not be able to do all we are being asked to do at once, and choices must be made, which will require careful study. It would seem, as a relatively small private school, that our goal should be to attain excellence in whatever we do. Although the atmosphere of inquiry and scholarly pursuit of knowledge must be maintained both in the basic science and clinical areas, we must always remember that our most important function will continue to be that of an educational institution that provides its students with the tools they need to deliver the medicine of tomorrow.



Randolph Hurd '96, with his wife and two of their four daughters.

A GENERAL PRACTITIONER I ONCE KNEW

by Wesley W. Spink '32

President, HMS Alumni Association; Regents' Professor of Medicine, University of Minnesota Medical School

WHEN I ENTERED THE HARVARD Medical School in 1928, I knew few people in Boston, but before I finished my first year, I had met a most remarkable man who was to influence my future more than any other individual, with the exception of my father. That man was Randolph Campbell Hurd, born in Newburyport, Massachusetts in 1872.

It is especially appropriate that I tell about him in these pages because he was a graduate of the Harvard Medical School in the Class of 1896, and a member of the Boylston Medical Society. He interned on a Harvard Service at the Boston City Hospital almost forty years before I did. He was a superb family physician in Newburyport for nearly four decades, and he was devoted to good literature.

The Father

His father, Edward P. Hurd, was a general practitioner, and his mother the daughter of a leading clergyman. They came from old New England

families that had settled in Massachusetts before 1700.

Edward Hurd, however, was born in the Province of Quebec, Canada, and attended McGill University Medical School, graduating first in his class as the Holmes Gold Medalist. Shortly after his marriage he decided to practice in Newburyport. Although engaged in a strenuous general practice, he was an unusual scholar and was a conscientious and precise student of medicine—this I could judge from looking through his textbook, *Lectures on the Principles and Practice of Physic* by Thomas Watson, the "Osler" of his day. Throughout the nearly thousand pages of this volume, which now rests in my library, countless annotations and key passages are underlined.

His scholarly activities continued during his days of practice in Newburyport. Because of his facility with the French language he reviewed French medical publications for the *Boston Medical and Surgical Journal* and carried on a correspondence with Claude Bernard and with the neurologist, J. M. Charcot. Between the pages of his copy of Bernard's "Leçons sur la Chaleur Animale" I found an autographed

photograph of its author. Especially attracted to developments in neurology and psychiatry, Dr. Hurd translated into English, for the first time, parts of the "Clinical Lectures on Certain Diseases of the Nervous System" by Professor Charcot. The preface to this translation of 155 pages was written by Charcot himself, and I find that the volume is still requested frequently at the University of Minnesota biomedical library.

Dr. Hurd's enthusiasm for the new medical science is incorporated in his introductory comments: "The discoverer of scientific truth is to be envied. I can imagine no task more worthy of the human mind than the search for and the unfolding of new facts in nature." He wrote two monographs: "A Treatise on Neuralgia" and "Sleep, Insomnia, and Hypnotics." In addition, he appeared before the Massachusetts State Medical Society at the Annual Session and read a paper "On the Germ Theory of Disease," published in the *Boston Medical and Surgical Journal*, July 30, 1874.

This unique person transmitted his spirit of intellectual inquiry not only to his son but also to his two daughters, both older than his son, Randolph. Kate always aspired to be a doctor and graduated from the Woman's Medical College of Pennsylvania in 1888 at the age of twenty-one. Postgraduate work at the new Johns Hopkins Medical School acquainted her with Welch, Kelly and Osler, who ignited in her a life-long passion for medical history. Marrying William E. Mead, a professor of English at Wesleyan University, she practiced for over thirty years in Middletown, Connecticut. She pursued her love of history and wrote a definitive volume, *A History of Women in Medicine* published in 1938. The College of Physicians of Philadelphia has memorialized her with the establishment of an annual Kate Hurd Mead Lecture on Medical History.

The second sister, Mabeth, studied art and was a young teacher of that subject in the Minneapolis public schools when she met and married James Paige, a professor of law in the University of Minnesota. This connubial circumstance prompted her also to study law and she graduated from the University of Minnesota Law School. Aided and abetted by her husband she entered Minnesota politics and was one of the first women in the United States to be elected to the State Legislature, where for over twenty years she was a distinguished and respected member.

I knew both of these unusual women, particularly Mabeth Hurd Paige, the "Lady in Law," which is the title of her biography by Darragh Aldrich. The dedication in this volume expressed Mabeth's credo: "To all women who love their country enough to accept the responsibilities of its citizenship as well as privileges."

The Son

DR. Randolph Hurd was to tell me in later years that as a boy it was a handicap to have two bright and competent older sisters. "It was unsettling," and on graduating from Newburyport High School he was restless. His father, very wisely, arranged for him to take a year off to "think things over" by engaging him as a member of a crew on a sailing ship. In 1890 he sailed from New York harbor under Captain Colby, a friend of the family, bound for Java around the Cape of Good Hope, with a cargo of kerosene

in five gallon tins. It was on this journey that the ship's carpenter, a Japanese, made him a "ship in the bottle." In later years he would regale his four daughters with stories about his year at sea and about the ship in the bottle. After forty years he wrote a stirring essay "Before the Mast," which detailed his year on the ocean. I have a copy before me. He writes, "Let me recommend Masefield's 'Dauber' as the most perfect description of a ship at sea ever written." Many times I heard the Doctor read "Dauber" aloud on a winter's night before the fireplace in his Newburyport home.

His sea voyage behind him, young Randolph was off for college. He graduated from Wesleyan University and then entered the Harvard Medical School, where he enjoyed his medical school days.

Years later upon comparing our medical school experiences, I told him of my admiration for Harvey Cushing. At the time, I had just finished my third and fourth-year surgical clerkship at the Peter Bent Brigham Hospital, where, for many hours, I had held retractors for Dr. Cushing. One day I expressed to Dr. Cushing my enthusiasm for his book *Life of Osler*, and he promptly agreed to autograph my copy; he was always kindly disposed to the medical students. Dr. Hurd wrote about Cushing, "I have enjoyed the story (Fulton's) of Cushing's medical school days because I remember him well as an undergraduate. He was in the class ahead of mine at Harvard Med., and I have a memory picture of him demonstrating a brain in the old dissecting room at the HMS."

Upon graduating Dr. Hurd became a house officer, from 1896-1897, at the Boston City Hospital. He then returned to Newburyport where he was a family practitioner for almost forty years. He always spoke with pride about the BCH and its visiting staff, which included such men as George Cheever, Charles Withington and Robert Green.

Almost forty years later, from 1933-1934, I was an intern on the Fourth Medical Service at the Boston City Hospital, and later, as a resident physician at the Thorndike Memorial Laboratory, Dr. Hurd visited with me on the wards. His comment was, "It is just the same—only, there appears to be a new coat of paint on the walls." How he enjoyed meeting George R. Minot, William B. Castle '21, Soma Weiss, Chester Keefer and Maxwell Finland '26!

I Learn About Family Practice

DURING my last two years in medical school I would spend an occasional weekend or holiday with the Doctor and his family in Newburyport. Two of his four daughters were still unmarried. My visits increased through the years of internship and residency at the Boston City Hospital. During the warmer weather there was a round of tennis or a swim in the ocean; in the winter, a long walk on the beach. An excellent dinner followed—a standing roast beef or ducks were often brought forth. Afterwards we settled for a long evening of reading aloud by the Doctor.

Sunday mornings were devoted to the two of us going on house calls and then making a visit to the Anna Jacques Hospital in Newburyport. Dr. Hurd never performed major surgery. When necessary he had the best of Boston's surgeons journey to Newburyport or he sent the patient into Boston. But he engaged in all other aspects of medicine—as any general practitioner did. I enjoyed visiting in the homes

of his patients where people from all walks of life were encountered; a retired sea captain with congestive failure; a banker with diabetes; a housewife with an unusual skin eruption; or a child with whooping cough. It was apparent that all the patients respected this gentle and considerate physician. He had been the doctor to several families for two and three generations and always inquired about the family in general. Many times his call was a combined social and professional visit, and he brought comfort to each of the homes. Occasionally, he would ask my advice or invite me to examine a patient.

I recall vividly one incident in the home of a patient, which illustrated how resourceful a family physician must be. An elderly patient had diabetes, and his wife was concerned about the monotony of his diet. Could she substitute peas as one of the vegetables. "Yes," said the Doctor. "But, how many peas per helping?" "Oh, I would say from 75 to 100." And the housewife was most relieved at his answer.

Then we would be off to the hospital, a community project of which he was proud. Toward his later days he became interested in cardiology, and when the hospital obtained an electrocardiograph he operated the machine himself and interpreted the tracings; he taught me many lessons in heart disease. Like so many physicians of that day Dr. Hurd had his office in his home with a small adjacent laboratory where he could perform urine analyses or carry out hematological tests. For me this was training in out-patient medicine at its best. There was no difficulty in locating a chart or finding a quiet nook in which to talk to the patient.

Dr. Hurd was also medical examiner for Essex County for many years, professional examiners having replaced the out-moded coroner system in Massachusetts in 1877. This aspect of medicine appealed to his inquiring mind, although he was a shy and sensitive person and was often shocked at the brutality of human beings. He abhorred the nasty turn of events that occasionally took place in court during a medico-legal procedure, particularly if they involved friends or the confidences of patients. On such occasions, before proceeding to court, he would read Emerson's "Self Reliance," and one day he read it to me.

I have been a full-time teacher in the University of Minnesota Medical Center for over thirty years. Life and work in the "Ivory Tower" is more complex, and the practice of medicine more sophisticated than it was in Dr. Hurd's time. But for me, in a large university hospital, the doctor-patient relationship is no different from that experienced by Dr. Hurd. What concerns us all today is not that medicine has become highly scientific and practice more specialized, but that good medical care has become so expensive. There will be a return to the family type of practice because with well trained medical and paramedical personnel this type of practice is effective, efficient and less costly. Would that every one of our medical students could be exposed to a person like Dr. Hurd.

His Hobbies

Dr. Hurd was devoted to his practice and to his family. He worked hard. For years a vacation with his family meant two weeks at the beach or in the mountains of Vermont. He traveled to Europe only once. He was not a club man. He did not hunt or fish. He did not

care too much about music. His happiest hours were with his books, perhaps reading aloud to his wife and daughters, or to a few close friends.

His book-lined living room held his favorite volumes. Poetry included Shakespeare, Keats, Shelley, Milton, and of course, Masfield. He liked Whittier because the poet had lived in nearby Amesbury and in his later years in Newburyport, a few doors down from the doctor. He had read and re-read Boswell's *Life of Johnson*. His favorite essayists were Samuel Bronson Crothers ("The Gentle Reader"), Lamb and Macaulay. He enjoyed the novels of Thackeray, Jane Austen and, above all, Anthony Trollope (*The Warden*). He was attracted to history and knew well the writings of Prescott, Parkman, Motley, Macaulay (*History of England*) and Froude (*History of England*). He liked to browse in his multi-volume set of Samuel Pepys' Diary. On occasion, he returned to the essays of a fellow book collector, A. Edward Newton ("The Amenities of Book Collecting").

I have included only a partial list of his wide reading. But what is important is that he stimulated in me a deep appreciation for literature. I have often wondered whether Dr. Hurd would not have been a superb teacher of literature. But, then, I might have missed him.

His Later Days

ONE DAY while gathered with his family he was afflicted with a severe myocardial infarction. He was attended by his friend, Carleton Bullard '18 and by Paul Dudley White '11. After forty years as a general practitioner, and at the age of sixty-four, his work was over. He was to live for twenty more years. He traveled a bit; recorded and interpreted a few electrocardiograms; but his chief occupations were browsing among his books, corresponding with his daughters and following the progress of his grandchildren.

His weekly letters to his daughters were ties that kept the family together, a family now spread across the United States. Each day he sat at his typewriter and recorded passing events, his literary pursuits, opinions on politics and historical figures—often a recital of memories. On the seventh day a carbon copy of the letter was sent to each of his four daughters. At least one of them has a complete file of these unusual messages, extending over a period of almost two decades and embracing the days of World War II. I have re-read some of these letters recently with interest and amusement. Someday a member of his family will edit them for others to read because that is the way in which history is often recorded.

Dr. Randolph Hurd and his wife could reflect upon a long and happy life. He was a beloved physician and a devoted husband and father. He never wrote a scientific paper. He rarely attended a national medical meeting. Perhaps his greatest achievement and pleasure were his grandchildren, who are numbered among the graduates of Harvard College, Harvard Medical School, Radcliffe, Princeton, Ohio Wesleyan University, Western Reserve University, Stanford and the Universities of California and Southern California.

As I write this surrounded by my own books, some of his treasured volumes can be found on my shelves, and on a shelf close by is his ship in the bottle. And seated across the room is his daughter, Elizabeth, my wife for thirty-three years.



THE MEDICAL PASSPORT FOUNDATION

by Claude E. Forkner '26

... a philanthropic
tax exempt, non-profit
organization dedicated to
improving patient care by
facilitating communication
between physicians and con-
tributing through research to
the body of medical knowledge.

A Standardized System of Medical Records

THE first of these aims is accomplished through the promotion of a standardized system of records for use by physicians, hospitals and patients. In spite of the obvious benefits to research and medical communication in general, there has never been a satisfactory and uniform system of medical record keeping.

The Medical Passport Foundation's System of Records represents an effort to obviate some of these difficulties. The large and growing number of members of the medical profession who use it with satisfaction and confidence constitutes an irrefutable endorsement.

The key document of the Medical Passport System is the Record of Medical History, a 17-page form to be filled in by the patient, in his own words, at his leisure. It is not simply a check list, or a yes or no questionnaire. The patient is able to verify dates and facts of family medical history by discussion with family members, friends, and others. The physician is spared the time-consuming task of eliciting pertinent data with inevitably questionable results in the areas of completeness and chronologic accuracy. During the first office visit, the physician, in possession of these basic data, can immediately identify the problems, and assist the patient in any areas that may have proved difficult or confusing. The record, with professional amplification, becomes a superior medical history and an integral part of the patient's permanent medical record.

The second document of the Medical Passport System is the Physician's or Hospital's Basic Medical Record, a standard model office or hospital record, presented in manila folders for filing in standard equipment. It includes the following records on: medical history, historical and diagnostic summary, physical examination, progress notes, injections such as allergens, diuretics, etc., body weight, exposure to radiation, current immunizations, laboratory studies, prothrombin or coagulation determinations for patients being treated with

anticoagulants, and interpretation of electrocardiograms and the electrocardiograms themselves.

The third document is the Medical Passport which is wallet size, readily portable and designed to be kept in the patient's possession as a means of instant, on-the-spot medical identification. It is a means of communication between physicians, enabling a new physician, consultant or hospital admitting officer, to identify the patient's medical problems with accuracy and confidence. The patient completes three pages of identifying information and presents the passport to his physician for completion, using data from the Record of Medical History, results of the physical examination and laboratory studies. The individual now has in his possession a document containing all facts relating to his medical history—emergency information, laboratory findings, x-ray reports, lens prescription, electrocardiograms, diagnoses and treatment. It prevents delay, repetition and errors; it reduces expense; it saves lives. All the documents in the Medical Passport System are designed to be easily kept current with little or no increase in bulk.

The Record of Medical History, the Physician's or Hospital's Basic Medical Record and the Medical Passport, with appropriate adaptation, have been made available for the pediatric patient. The documents for the child differ from those for the adult chiefly in the Record of Medical History. The record for the child pursues the history into the previous generation noting significant events that occurred during the phases of preconception, conception, gestation and delivery. The neonatal period is covered in detail and the childhood phases followed with a regular periodic account of growth, diseases, injuries, operations, immunizations, emotional stresses and anything that might bear on the future development of the individual. The data in the documents for both adult and child are arranged so as to be readily adapted to computer programming.

A New Approach for the Study of the Causes of Congenital Defects

IN striving to perfect the Medical Passport System of Records for the Child, we became increasingly aware of the distressing fact that we know least about the period of our lives which can be most important—the foundation. The foundation of the individual's life is laid down in the previous generation. The primitive ovum and spermatozoon are present in the prospective parents at the time of their birth and subject to the effects of environmental agents throughout the years until united at the time of conception. Any agent that affects the reproductive material will almost surely influence the quality of the product of conception. The period of preconception, therefore, would seem to be of the utmost importance—worthy of the most intensive investigation.

The moment of conception is virtually unexplored insofar as the conditions surrounding its accomplishment may influence the product. If either or both prospective parents at the time of conception are suffering from fatigue, using alcohol or drugs, ill or deeply upset emotionally, it seems likely that the product of conception may be modified. The period of conception, therefore, demands exhaustive examination.

Once conception has taken place, a great many important events occur in a very short space of time, and the introduction of a deleterious agent during the early and crucial pre-embryonic stage of development may well be disastrous. Some of these agents, and their handicapping or fatal results, have already been discovered—the hard way. Rubella in early pregnancy is notorious as a cause of congenital defects. X-ray exposure is avoided during pregnancy except in cases where it is absolutely necessary. The tranquilizer Thalidomide, during the brief period of its use, left a tragic wake of heartbreaking deformities in more than 6,000 children. The known causes of congenital defects account for less than half of the existing cases. The causes of over 60 per cent of physical congenital defects remain unknown. The causes of about 80 per cent of the cases of mental retardation remain obscure. We must abandon the womb as a symbol of security!

In the United States alone, from one to two million women miscarry annually before they ever realize they are pregnant. It is believed that approximately 50 per cent of these spontaneous abortions are due to a defective fertilized ovum. Why was the ovum defective? Most women do not consult an obstetrician until after the eighth week of pregnancy when tissue differentiation and organization is complete and all the main body systems of the unborn child are functioning. Seven hundred babies with severely handicapping defects are born in this country every day. Somewhere in the prenatal history of the individual the clues to his inferiority or superiority are to be found, but as yet this vast store of vital information has remained essentially unexplored and unavailable.

The above considerations led me and my associates, under the auspices of The Medical Passport Foundation, to undertake a pilot research study to establish protocols for use in a large scale project to discover the causes of congenital

defects and thus take an important step toward their prevention. Retrospective studies investigating the causes of congenital defects have yielded much valuable information, but due to the fallibility of human memory and unpredictable reactions on the part of the respondents, the retrospective approach is necessarily inadequate. The prospective approach is obviously preferable in spite of the difficulties entailed. A large scale partially prospective study involving over 40,000 women was actually attempted in a collaborative study by the National Institute of Neurological Diseases and Blindness, but the prospective quality was virtually lost because the mean time of registration of the respondents was the twenty-first week of pregnancy when, as embryologists and pathologists acquainted with congenital defects know, the all-important tissue differentiation and organization has long since been completed.

The Medical Passport project is unique and truly prospective. The data are collected continuously from time of contemplated conception when both prospective parents are exhaustively interviewed and examined. The prospective mother and father maintain daily diaries, periodically professionally evaluated, through the period of conception, after which time only the mother continues with the daily diary until termination of the pregnancy. All possible data concerning the pregnancy outcome are carefully collected. If the pregnancy terminates in a live birth, the infant is carefully followed and all findings documented. It is immediately apparent that a tremendous volume of data will be accumulated and a huge number of correlations will be possible. The manipulation of so much data could not even be contemplated were it not for the availability of automatic computer processing. Ideally the Passport study will be large enough to demonstrate the reliability and practicability of the protocols.

There is every likelihood that a study of this nature cannot fail to advance our knowledge about the causes of significant congenital defects afflicting approximately fifteen million people and the causes of mental retardation afflicting approximately six million people in our nation. It is our belief that the patterns of early life will be reflected in later life. We have the promise of learning much more than we now know about those factors which determine the failure or success, physically, mentally, socially and emotionally, of the human race.

There is an old saying, "The child is father to the man," and another, "As the twig is bent the tree is inclined." It is our belief that not only is the child father to the man, but also the infant is father to the child, the fetus father to the infant, the embryo father to the fetus, and the germ cells father to the embryo.

Further information or records
may be obtained from:
The Medical Passport Foundation, Inc.
35 East 69th Street
New York, New York 10021

BY HIS BRILLIANCE AND brutality, Baron Guillaume Dupuytren dominated French surgery of the early nineteenth century. A contemporary called him the "first of surgeons and the last of men."¹ During their European studies both John Collins Warren (1778–1856), and his son, Jonathan Mason Warren (1811–1867), knew Dupuytren. Their letters and journals provide a fascinating assessment of this unusual physician.

When John Collins Warren first met Dupuytren in 1800, they were both about 23 years old and beginning their notable surgical careers. But Dupuytren, unlike Warren, lacked material wealth and social prominence. His father was a poor solicitor, and the family led a dour life in the small village of Pierre-Buffere, near Limoges, in south-central France.

Early in his life, Dupuytren demonstrated considerable "charm and intelligence" which was quickly recognized by a cavalry officer stationed at Pierre-Buffiere. He requested *le père* Dupuytren to allow his son to go to Paris to attend the *Collège de la Marche*, a Jesuit school run by the officer's brother. After finishing his studies there Dupuytren returned home with the idea of becoming a soldier, but his father belittled this plan and declared, "Tu seras chirurgien" (You will be a Surgeon). He started a medical course in Limoges, but, realizing the deficiencies of that training, he went back to Paris and this time entered the *École de Santé*. Due to his extreme poverty this period of his life was arduous and bitter. He would, for example, use the fat of cadavers to make oil for his study lamp.² Eventually, through enormous industry, stamina and persistence—his life-long attributes—he received an appointment as prosector, in charge of all autopsies at the medical school. In 1801, he became *chef des travaux anatomiques*, and soon combined his anatomical observations with an interest in pathology.

Dupuytren's outstanding ability as a teacher impressed his professors who asked him to give his own course in pathology, with Bayle (1774–1816) and Laennec (1781–1820) as his assistants.³ John Collins Warren, who attended those first lectures, wrote of Dupuytren: "I was surprised at the minuteness and extent of his knowledge; but I was not suspicious at that time that he was destined to stand at the head of French surgery . . . I recollect remarking to him, that he spoke with great facility, and that I understood him better than any other lecturer. He replied with a modesty quite peculiar, and which he certainly got wholly rid of at a later period of life."⁴

In 1802, a position of "Surgeon of the Second Class" was vacant at the *Hôtel Dieu*. Dupuytren's principal opponent was Philibert Roux (1780–1854). In Warren's words:

. . . As usual in Paris, a *concours*, or comparative trial of ability, was opened and maintained with great skill. I was present at this conflict, which took place at the *Oratoire*, I was astonished at the facility with which the candidates, on drawing an unknown question from the urn, tended without hesitation a response which extended to a variety of topics branching out from the original inquiry. At the end of two days, the balance of opinion inclined to the side of Roux. Dupuytren had his mind so strongly fixed on obtaining the place, that he was almost distracted at the appearance of probability in Roux's favor. In this state of mind, he visited the gentleman who gave me the information—a person of influence, and a friend of Dupuytren. Rushing into his

Le Baron and the



Guillaume Dupuytren

room, he burst into tears, struck his head violently with both hands, and cried out, "I am lost!" His friend tranquillized him and said, "Take courage. Go this evening to Madam B. She thinks favorably of you; will be flattered by your application, and gratified to exert her influence in the medical intrigue. She can turn the scale in your favor, if she choose. Kneel to her. Pray to her. Say everything you can think of to excite her interest, and you will obtain the prize. Fly! There is not a moment to be lost!" Dupuytren took his advice, and the next day obtained a decision in his favor . . .

Other accounts of Dupuytren's victory exist; few, however, are either just or complimentary to him. One version, for example, is that he had prior knowledge of the questions. Interestingly, Roux blamed his own defeat on the fact that he was "too young for the position" when he tried for it—he was six years younger than Dupuytren.²

At the *Hôtel Dieu*, Dupuytren continued with characteristic productivity. In 1812, after another acrimonious contest with Roux, he gained the chair of Operative Surgery, and in 1814 became Chief-surgeon. His competition with Roux was not confined to medicine, and Roux was not always the loser; Roux, in fact, successfully wooed Dupuytren's fiancée and married her.⁵

Doctors Warren

by Robert M. Goldwyn '56



Jonathan Mason Warren

ALTHOUGH DUPUYTREN was known as "the brigand of the Hôtel Dieu," even his numerous and jealous enemies acknowledged his competence and contributions. He was the first to excise the mandible (1812)⁶ and to treat torticollis by subcutaneous division of the sternomastoid muscle (1822). He was one of the first to drain a brain abscess. His skills in vascular surgery with respect to aneurysms were well known—successful compression and ligation of the external iliac artery (1815) and of the subclavian and carotid arteries (1819–1829). He devised an original method for creating an artificial anus and wrote extensively about orthopedic problems, such as congenital dislocation of the hip (1826) and fractures, particularly those of the lower end of the fibula (1819). He described Madelung's deformity before Madelung did. His medical interest and writings were varied and ranged from the treatment of vaginitis to the management of war wounds, based principally on his experience with the injured in the Napoleonic Wars and the Revolution of 1830.⁵

Jonathan Mason Warren, then 23, became acquainted with Dupuytren toward the end of his life. The "modesty" that his father, John Collins Warren, noted 30 years before had indeed disappeared. Contemporaries described his face as having

"la froideur du marbre" (coldness of marble). Ruthlessly he tolerated no rival, no dissent. He was by then called the "Napoleon of Surgery" and reigned alone at the Hôtel Dieu. Sloppily attired, he would arrive at the hospital at 6 o'clock every morning to lead his medical entourage on rounds. In twenty years, he missed hardly a day. A colleague said, "We have seen him sick, febrile, icteric, accomplishing the vigorous duties which he had set himself, omitting nothing."²

Louis XVIII created a baronetcy for him in 1816, and he was appointed First Surgeon to Charles X. Never one to be slapped on the back, he was usually addressed as "Monsieur le Baron" but his intimates were allowed to call him "Le Baron."⁷ From his private practice of ten thousand patients annually (apart from his free work on the wards) he amassed a fortune. He was able to offer a gift of 1 million francs to the later exiled Charles X, who, incidentally, declined the generous gesture.

In 1832, the year Jonathan Mason Warren first met Dupuytren, he had just described the hand condition that bears his name. Warren wrote:

His operations are always brilliant, and his diagnosis sometimes most extraordinary. He is one of the most suspicious persons I have ever encountered. He is continually seeking to convince us that he is a great man, and that we do insufficiently value his talents. He likes much to make a show, and generally talks throughout the whole operation . . . For brutality I do not think his equal can be found. If his orders are not immediately obeyed, he makes nothing of striking his patient and abusing him harshly. A favorite practice of his is to make a handle of a man's nose, seizing him by it and pulling him down onto his knees, where he remains half in sorrow, half in anger, until he is allowed to arise and describe his symptoms . . . Dupuytren is now becoming rather careless in his operations, from too great confidence in his own powers. He was brought to his senses the other day by an accident which will make him more careful in the future. While operating for strangulated hernia, at the second cut he penetrated directly into the intestine. Raising his head with great coolness, he said, "Voilà, messieurs, la matière fécale" and without another word quietly stitched up the wound . . .⁸

Dupuytren rarely lost an opportunity to expand his fame and even allowed his name to be used for promoting "a recipe for the itch" and "an ointment against baldness."

A YEAR LATER, ON November 22, 1833, in a letter to his family, Jonathan Mason Warren wrote: "Dupuytren has been seized with an apoplectic fit, I believe, however, not so serious as to threaten his life. He has been left with a paralysis of one side of his face, the mouth being somewhat drawn up. He has had leave of absence for six months, and has left Paris for Italy to spend the winter."⁹

This cerebral vascular accident, affecting the right side of his body, occurred on November 16, 1833, while he was lecturing. Dupuytren, recognizing the symptoms, covered the side of his face with his hand and continued his discourse.⁵

Jonathan Warren later wrote his father in March of 1834 that ". . . Dupuytren has returned to Paris in perfect health, and the next month resumed his clinique at Hôtel Dieu . . . Dupuytren is a very well formed man, a little inclined to corpulency, with a short neck and an injected face. that of a

bon vivant. He has been accused, no doubt justly, of passing his evenings at the . . . largest private gambling house in Paris, where playing is carried on to a very late hour. According to the state of his temper the next morning, his students are informed whether he lost or won on the previous evening. This, at least, is the story. There is no doubt of his savage disposition at times, which I usually watched, taking good care not to fall too closely upon his heels, as I have seen him use a couple of Englishmen very roughly, who had inadvertently pushed onto him. His voice, when he chooses, is one of the softest and most harmonious imaginable . . . If anything, however, opposes his whims, he bursts forth like a very lion . . . As an operator I have never thought very highly of Dupuytren. He is too confident, and does not conduct his operations with that care which you show, nor is he as judicious in his treatment before and after the operation, nor is his ultimate success as great as you experience with your patients."^{9,10}

A month later Mason Warren stated that he attended Dupuytren's second lecture since his return from Italy and observed "a certain thickness in his pronunciation which shows the remains of his disease. In his walk, he has lost much of the firm commanding carriage, and is evidently greatly infeebled. I observed also that he wore a cloak—a thing that he never did before even in the coldest days of winter . . ."¹⁰

Mason Warren paid Dupuytren a visit and was received "very politely. He lives in a very nice apartment just on the Place du Louvre, facing the Seine. He looks much better in his chambers than he did in the lecture room. Among other topics of conversation I asked him if he had ever seen any cases of dislocation of the hip behind and downwards. He said he had—two; one occasion by the man's falling down from the scapholding and striking the foot and knee (in fact, the whole leg) while in a bent position, thus driving it down out of its socket. Both cases were reduced immediately after the accident . . . Dupuytren's sight is as good as ever; in truth, it is a remarkable fact, no surgeon I have encountered in Europe is obligated to have recourse to spectacles."^{10,11}

Dupuytren at that time wrote to his father that he was "prepared to give up this rat race at 60, but not before, and to have to leave my first rank won after so much pain and effort is more terrible than I can say."¹²

In another letter to his father (February 12, 1835), Mason Warren reported:

Since my last letter we have lost a great authority in surgical science, M. Dupuytren, who died the day before yesterday . . . It seems that (at autopsy) the heart was diseased, the remains of the épanchement which caused the attack of apoplexy in the spring were found in the brain, and some calculi in the bladder and kidneys. He did not allow any person to know what his exact state was; it is said that until the last days of his life no one knew whether he was to die or get well, as he put on a feigned appearance when visited by his physicians, thus carrying out to the end his stern independence and eccentric disposition. By his will he has left the great bulk of his property, 7 or 8 millions to his daughter and

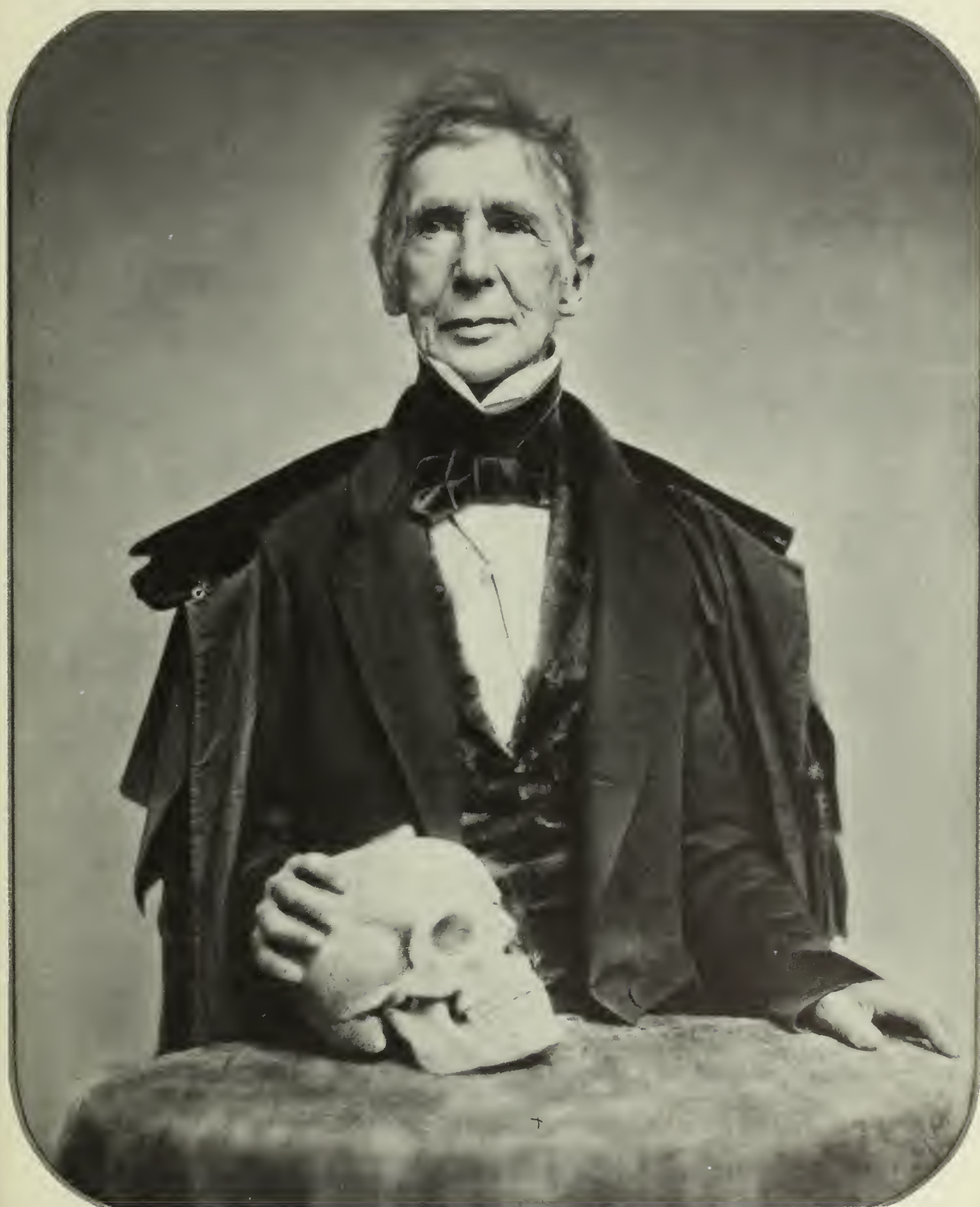
only child, married to a peer of France; 200 thousand francs for the foundation of a chair of Surgical Pathology for a museum in the École de Médecine; and 300 thousand francs for a hospital or asylum for 12 old retired physicians. It is said that he suffered much during the latter part of his life from noise in the street and in his hotel, there being a ball in the room over his head the night preceding his death. This was, in fact, the cause of his bequest (asylum for retired physicians) . . . His funeral took place yesterday and was attended by the professors and nearly all the students of the School of Medicine. The students . . . took the horses from the hearse, dragged it themselves to the tomb. At present I can see no one who can at all aspire to his place. His lectures on surgical pathology were unique, and I have never heard any person attempt to treat the subject in the manner of which he is introduced into his clinique. It is said that before he died he sent for Lisfranc and Richerand, his old enemies, and made friends with them. Whether this be true or not, I am ignorant. Lisfranc, however, in his leçons, has of late quoted Monsieur Dupuytren—a thing which he has never done before. Dupuytren's life seems to have been passed perhaps as bitterly, considering the illustrious place he has attained, as could possibly be imagined. He had few friends,—no doubt from the repulsive manners which belonged to him, produced by the battles for distinction and the domestic troubles at the commencement of his career."^{11,13}

This last reference by Mason Warren is to the fact that Dupuytren's wife left him abruptly.

Without doubt, Dupuytren's life honored the two maxims he frequently repeated to his students, "Read little, see much, do much (*Peu lire, beaucoup voir, beaucoup faire*)," and "Nothing should be feared so much for a man as mediocrity (*Rien n'est pas tant à redouter pour un homme que la médiocrité*)."¹¹

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John Collins Warren

EDITORIALS

Faculty Club?

At the corner of Eastcheap and Philpot Street, in that part of London ruled by the Lord Mayor, the brown-stone trim of the second story of an old building bears a quaint and inconspicuous carving apparent only to those to whom it has been pointed out. This happened a few years ago to two Americans. Chiseled there during the original construction, by an exasperated mason who, with others, had repeatedly had his lunch stolen by the rodents that infested the neighborhood, it represents two mice eating a piece of cheese. It seemed to one observer symbolic of the frustration experienced by many of those employed in the Harvard Medical Area in respect to their own midday alimentation and the meager facilities available.

A half century ago, after the first hospitals had been built and the marble columns of academe had risen on the transiparian slopes that drain into Muddy River, a basement lunchroom in Building A served the needs of the less than teeming population of teachers and their students, engaged in then extension of medical knowledge.

Then came Vanderbilt Hall and its Faculty Dining Room, capable of seating perhaps forty inspired med-agogues, elbow to elbow. After its inexplicable closing last year some protests must have been registered, for Dr. Sanford L. Palay, Bullard Professor of Neuroanatomy, made a study of the situation and reported in simple but forceful language to the Faculty at its December meeting. He expatiated on the two small, crowded rooms with their heavy oak panelling "clearly too new to belong to an ancient English college and too costly to be recent."

He did not compare them to the sumptuous hall of the postwar Royal College of Surgeons, richly panelled in quartered oak from a single tree, it is said, planted in the reign of Elizabeth I, but some sort of inference was surely intended.

The advantages, especially the intellectually stimulating value of a faculty dining room were detailed, although it was admitted that with a faculty of nearly a thousand members, swelled to approximately twice that number by instructors and assistants of less than faculty rank, any considerable use of the present dining room, especially if everyone decided to come on the same day, might make it almost unbearably cozy.

What is visualized as the pressing need is a real faculty club for the teaching staffs of the Medical School and the schools of Dental Medicine and Public Health, with a dining hall of Cantabrigian or Oxonian proportions, and an atmosphere similar to that described by Henry Newbolt in his poem, "He Fell Among Thieves":

The College Eight and their trainer
dining aloof,

The Dons on the dais serene.

Meanwhile the original Faculty Dining Room has been reopened, with the gustatory addition of light wines and beers, although not on draught.

In a discussion of needs—physical, intellectual, social and spiritual—of the intelligentsia, it is well to bear in mind also the many nonfaculty but also "decent and well-mannered" auxiliary workers who aid materially in keeping the wheels of progress turning. They are now impelled to crowd into the hospital cafeterias, patronize the local pubs or bring their sandwiches, often to be eaten in solitude (which has its merits).

Unforgettable Character

For a number of years, under the title "My Most Unforgettable Character," the *Reader's Digest* has published each month some contributor's tribute to a person who had been a major influence in his life. It is an admirable and often affecting form of hero worship, in which the writer openly and often touchingly acknowledges the uplifting effects of another personality on his own.

Our president—the president of the Medical Alumni Association—who will soon lay down the administrative duties of his office, has left with the readers of the *Bulletin*, who represent his constituency, a similar record. It is the story, published in this issue, of a person who has not only strongly influenced Wesley Spink's own life and career, but of one who can represent for all of us the highest type of physician, literally caring for his people in an almost pastoral relation, in health and in sickness.

For those who believe that general practice is on the decline, Wesley, as a teacher for many years, who has become the first Regents' Professor in Medicine at the University of Minnesota, expresses his conviction that "there will be a return to the family type of practice because with well trained medical and paramedical personnel this type of practice is effective, efficient and less costly."

He writes of two doctors of Newburyport, Massachusetts; Edward Payson Hurd and his son, Randolph Campbell Hurd. Descended from old Massachusetts families, the father was born in the Province of Quebec, graduated from McGill University Medical School and settled in Newburyport, joining the Massachusetts Medical Society in 1870. He died in 1899 at the age of sixty. Randolph Hurd, who exercised such a strong influence on Dr. Spink, graduated from Wesleyan University and in 1896 from Harvard Medical School; after interning at Boston City Hospital he joined the Society in the year of his father's death and carried on what then became a family tradition.

New Curriculum Voted

In February, 1968, members of the Faculty of Medicine voted to begin major revisions in the first two years of the pre-clinical curriculum of the Harvard Medical School. The revisions will become effective this September.

Dean Robert H. Ebert explained that the new curriculum will provide more free time, fewer lectures, and will have an extremely liberal elective program. It will not, however, reduce the time needed to attain a medical education. Instead, it recognizes the fact that students enter HMS with different scholastic backgrounds and goals.

In the first two years, the "core" or basic curriculum embraces two broad study areas—cellular and human biology—extending over four time periods. Cellular biology, scheduled for the first portion of the first year, encompasses biological chemistry, bacterial physiology, histology and embryology, general pathology, biostatistics, pharmacology and the behavioral sciences. Human biology, covering three time periods, is concerned with individual organ systems and involves studies in human genetics, bone, joint and muscles, heart and circulation, the gastrointestinal system, gross anatomy, the neural sciences, hematology, reproduction, the renal and genito-urinary system, infection, respiration, endocrinology, the behavioral sciences and the physical examination of the patient.

It was noted by Dr. Alexander Leaf, chairman of the School's Curriculum Committee (whose article describing the changes appears elsewhere in this *Bulletin*), that some students actually may start rearranging their study program soon after entering the first year class. For example, "those entering students with advanced standing in one of the areas covered by cellular biology (as biological chemistry), may substitute electives for that particular portion of the course," said Dr. Leaf. Once the student has completed that portion of the core curriculum devoted to cellular biology, he may substitute elective periods for the three blocks involved in human biology. Thus, it

ALONG THE PERIMETER

would be possible to substitute an elective period for Part I of the human biology course which would normally fall in the second part of the first year and defer this to the second semester of the second year.

"This would mean," said Dr. Leaf, "that the student would not have taken gross anatomy until he had completed the second and third portions of the human biology course. Students selecting this option will be closely watched to determine if the delay in the study of gross anatomy affects their performance in other portions of the human biology program."

Over a four-year period it might be possible for a student to take an entire year and a half of electives, consecutively, if he included his summer

vacations.

Students now enrolled in the School will follow the present curriculum for the remainder of their medical education. The new curriculum will involve only those entering after September, 1968. "Though this will impose certain logistic problems insofar as teaching is concerned," Dr. Leaf admitted, "we feel it would be less traumatic to carry on the program in this fashion rather than to attempt a major reshuffling of all student programs in the current second, third and fourth years.

During the entire period the curriculum revisions were under discussion, students now enrolled in the School were consulted and brought into the planning, where their contributions, said Dr. Leaf, "were considerable."

Enteroviruses Suspected in Diabetes Mellitus

Can enteroviruses be responsible for occasional, sporadic cases of diabetes mellitus in man? Perhaps, believes John E. Craighead, assistant professor of pathology at HMS.

The occasional, sporadic appearance of diabetes mellitus may be related to naturally acquired infections by those viruses—polio, coxsackie and ECHO—which commonly affect man's gastrointestinal tract. A report on the induction of diabetes in experimental laboratory mice by inoculation with encephalomyocarditis or EMC virus was presented by Dr. Craighead at the annual meeting of the American Association of Pathologists and Bacteriologists in March.

Following inoculation with the

EMC virus, approximately 40 per cent of the mice developed hyperglycemia. On autopsy, the islets of Langerhans in the infected mice had lost their organized structure and individual cells had died.

Although it is reasonable to ask if the enteroviruses could be responsible for the incidence of diabetes mellitus, at this time, evidence to support such conjecture is limited.

Dr. Craighead pointed out that the pancreas of many mice surviving the infection showed little evidence of deranged glucose metabolism. "The factors which determine whether or not islet lesion and diabetes mellitus develop in an individual mouse," he concluded, "remain to be defined."



Dr. Norman and Ellie at right.

Ellie the Hemophiliac Cured

Ellie, a female beagle who had true canine hemophilia (Type-A), has been cured. On Nov. 31, 1967, John C. Norman '54 performed the transplant surgery in which Ellie received a normal spleen from a male beagle.

Dr. Norman is associate in surgery at Harvard Medical School, and director of the cardiovascular research division of the Sears Surgical Research Laboratories at the Boston City Hospital.

The crux of Dr. Norman's research relates to the level of the antihemophilic factor (Factor VIII) circulating in Ellie's bloodstream. After the surgery, the Factor VIII level in her blood rose sharply from the zero per cent recorded prior to the transplant surgery. The level has remained at an average of 91.86 per cent in terms of normal human values.

The Factor VIII level in the blood stream of normal humans ranges from 50 to 200 per cent. In dogs, the antihemophilic factor normally ranges between 75 to 300 per cent. Dr. Norman points out that hemophilia is no longer a threat when the percentage of Factor VIII rises above 25 per cent.

Since undergoing surgery, Ellie has been maintained on drugs which suppress the normal rejection process.

Each rejection threat, he notes, has been successfully overcome by using imuran, cortisone, antilymphocyte serum and actinomycin C.

In Oct., 1967, two other splenic transplants involving beagles with true canine hemophilia-A were performed by Dr. Norman and in both, the levels of Factor VIII rose rapidly. In one, the level rose to a peak of 240 per cent of the normal human value. Earlier, in April, 1967, Dr. Norman had reported the spleen as the production site of the antihemophilic factor in the blood.

"Each transplant," said Dr. Norman, "mimicked a clinical situation in which a non-hemophilic mother might donate her spleen to a hemophilic son. . . It would seem logistically realistic and morally acceptable if a heterologous carrier-mother were to donate her spleen as an enduring source of the congenital deficiency to a histocompatibly-close homozygous hemophilic son. However," he added, "there remains the possibility that current clinical homotransplantation guidelines may have to be redefined."

Dr. Norman said that the risk of such surgery to the mother would be no greater than that involved in conventional splenectomy—zero to one per cent.

Bridging the Gap Biochemically

In the press, we read almost daily of bridging the credibility gap. At Harvard Medical School, the gap has very little to do with credibility; it has to do with the existing gap between neurochemistry and clinical psychiatry. According to Joseph J. Schildkraut '59, the critical bridge may ultimately be provided by pharmacological investigations of drugs which are clinically effective in the treatment of depressions and elations.

Dr. Schildkraut said the development of drugs which are clinically effective in altering mood in man has provided investigators with powerful tools for exploring the biochemical changes which may be associated with the affective disorders, such as depressions and elations. He noted that major contributions involving such drugs have come about in the past decade, and cited the observations that reserpine could produce clinical depressions, whereas the tricyclic antidepressants were effective in the treatment of depressions.

Depressions are generally thought to represent a heterogeneous group of clinical and biological entities, which may depend upon uniquely human parts of the central nervous system for their ultimate elaboration. Therefore, it is unlikely that drug-induced behavioral changes in animals will ever provide completely adequate behavioral analogues of these complex human emotional states. These approaches, however, have had important practical application.

A more promising research strategy, Dr. Schildkraut believes, is to study the biochemical, rather than the behavioral, effects of psychoactive drugs in animals. In this type of study, consistent correlations have been observed between the known clinical effects of drugs or electroconvulsive shock on affective state in man, and their effects on norepinephrine metabolism in the brain of experimental animals. The biochemical findings suggest the hypothesis that drugs effective in the treatment of depressions may act to increase norepinephrine at receptors in the brain, whereas drugs effective in treating manias decrease norepine-



Dr. Schildkraut

phrine. While the hypothesis is plausible, said Dr. Schildkraut, it remains to be rigorously tested. The critical, and as yet unanswered question, is whether a change in norepinephrine metabolism is a necessary condition for drug-induced alterations of mood. "Recognizing these limitations in cur-

rent knowledge," he concluded, "the hypothesis that drugs which alter mood in man may act by changing levels of norepinephrine at adrenergic receptors in the brain, must be regarded as a tentative formulation, to be confirmed or rejected by future investigators."

"Prize" Funds for Students Established by Seegal Family

Two special "prize" funds have been established at the Harvard Medical School through the generosity of David Seegal '28 and his wife, Beatrice.

It is their wish to encourage students to submit dissertations in two distinctly different areas of medical education. In the first, a prize of \$500 will be awarded annually to the student submitting the best essay on the subject of medical education, or medical history (preferably about people or incidents of the 20th Century); this will be known as the Richard C. Cabot Prize.

The second area, for the Rose Seegal Prize, will be \$500 for the best essay concerned with the relation of the medical profession to the community.

If there are no suitable candidates for the formal prizes the money will then be applied to scholarships or fellowships for students working in those areas of interest designated by the funds.

In naming the funds, Dr. Seegal chose to honor two people who had made a significant impact in shaping

his life while still a student. The Richard C. Cabot Fund is named for his "invaluable, empathic mentor" who influenced several major decisions during his college years when he was pursuing a career in anthropology, and subsequently at the Medical School. "In many moments of my life as a clinical teacher," said Dr. Seegal, "the educative practices of Dr. Cabot proved invaluable. I have counted his words to me, 'The job of the physician as a physician and educator is not just to tell but to convince,' as one of the most useful precepts in teaching students and caring for patients." The second fund is named for his mother, Rose Seegal, who "was a wise, socially minded, self-educated intellectual."

Dr. Seegal is now professor of medicine, emeritus of the College of Physicians and Surgeons of Columbia University, and his wife, Beatrice, is professor of microbiology, emerita. They met at the Harvard Medical School when she was a research fellow studying under Dr. Wolbach.

Dr. Hyslop Awarded Moseley Fellowship

Newton E. Hyslop, Jr. '61 has been awarded a William O. Moseley, Jr. Travelling Fellowship for 1968-69.

Dr. Hyslop will spend a year working with Dr. Rodney R. Porter who is chairman of the department of biochemistry at Oxford University. During the year, Dr. Hyslop will continue his interest in immunoglobulin structure-function correlations and will devote his time specifically to studying the structure of macroglobulin antibody.

After interning in medicine at the Massachusetts General Hospital, Dr. Hyslop spent two years as a research associate in the laboratory of immunology at the National Institute of Arthritis and Infectious Diseases. He returned to Boston in 1965 as senior resident at Peter Bent Brigham Hospital. He is presently assistant in medicine at Massachusetts General Hospital.

Dr. Savitz, Fellow in Community Health

David Savitz '63 has been named the first Fellow of the recently established Center for Community Health and Medical Care—a joint endeavor of the Harvard Medical School and the Harvard School of Public Health to study how medical care can best be organized for optimal service to all segments of the population in the U.S.

Dr. Savitz's fellowship will be underwritten by the USPHS, where he has been designated a liaison fellow in community medicine and medical care under a special career development program.

During the first year of his fellowship, Dr. Savitz will continue his studies in epidemiology, health services and biostatistics at Harvard School of Public Health. He will also participate in the Beth Israel Hospital community health center which serves a low-income population in Roxbury, Mass., and he will assist in the planning of a pre-paid group practice program involving comprehensive health care which is now underway at Harvard.



Weariness “without cause”

*Psychic tension with
depressive symptomatology?*

“For weeks I’ve done practically nothing and I’m always tired. I wake up tired and I go to bed tired. It’s absurd. It’s really absurd.”

When the patient complains of fatigue, and you can find no organic cause, you recognize that it may serve her as a means of avoiding responsibilities or facing an emotional problem. It is, in effect, a psychological retreat behind a somatic cover of continuous fatigue—one of the many depressive symptoms often associated with psychic tension.

She needs counsel and reassurance, and perhaps a tranquilizer to attenuate excessive tension and help restore the capacity to cope. As an aid to successful management, consider the value of Valium® (diazepam). As psychic tension is eased by Valium therapy, secondary depressive symptoms too may subside. The patient feels more capable, therefore more hopeful; better able to handle situations of intense stress.

Before prescribing Valium (diazepam), consult complete product information; a summary follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders; athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindications: Known hypersensitivity to drug; children under 6 months of age; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in treatment of psychotic patients, and should not be employed in lieu of appropriate treatment. As with most CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may also be associated with temporary increase in frequency and/or severity of seizures. Advise patients against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance. Keep addiction-prone individuals (such as drug addicts or alcoholics) under careful surveillance because of their predisposition to habituation and dependence. Use of any drug in pregnancy, lactation or in women of childbearing age requires that potential benefit be weighed against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium, such as pheno-

thiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants. Employ usual precautions in the severely depressed or in those with latent depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed or tolerated). **Adverse Reactions:** Side effects most commonly reported: drowsiness, fatigue and ataxia. Infrequently encountered: confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo and blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, use of the drug should be discontinued. Because of isolated reports of neutropenia and jaundice, periodic blood counts and liver function tests are advisable during long-term therapy. Minor changes in EEG patterns (low-voltage fast activity) observed during and after therapy and are of no known significance. **Dosage:** Individualize for maximum beneficial effect. **Adults:** Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. **Geriatric or debilitated patients:** 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) **Children:** 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

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